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CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Cases Illustrative of Gastric and Cerebral Vomiting. By Dr. McCall Anderson, Prof. of Clinical Medicine in the University of Glasgow, etc.

Gentlemen: At our meeting in Ward 1, the other day, I brought under your notice two cases, in both of which vomiting was a prominent symptom. In the one the vomiting was dependent upon abdominal, in the other upon cerebral disease; and as they illustrate well the distinctive features of gastric and cerebral vomiting, we shall, if you please, refer to them, in the first place, from this point of view.

The patient who is the subject of gastric vomiting lies in bed 6; he who is affected with cerebral vomiting lies in bed 12; and for convenience we may speak of them as No. 6 and No. 12 respectively.

1st. When vomiting is dependent upon gastric disorder it generally sets in with stomach symptoms. This was the case with No. 6; for in October, 1873, he began to suffer from pain in the stomach after taking food—a pain which in a couple of months became much more severe, and then was accompanied by vomiting. In No 12, on the other hand, the symptoms were referable to the nervous system—namely, impairment of sight, paralysis of the side of the face, and pain in the head—symptoms which were succeeded by vomiting.

2d. In No. 6 the vomiting was asso-

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ciated with retching; while in No. 12 there was no retching, and the vomiting was easy.

3d. In No. 6 the vomiting was brought on by taking food, but after the contents of the stomach were evacuated the tendency to vomit ceased until food was again taken; while in No. 12 the taking of food had nothing to do with the vomiting, nor did the emptying of the stomach afford relief.

4th. In No. 6, on palpation of the epigastric region, there was decided tenderness, and a tendency to the induction of vomiting; in No. 12, on the other hand, there was no tenderness in the epigastrium, nor did manipulation of the abdomen produce any tendency to vomiting.

5th, and lastly. While in No 6, as we have seen, many stomach symptoms were present, in No. 12 there were none, but, on the other hand, well-marked symptoms referable to disease of the brain

We now pass on to the consideration of the nature of the diseases under which these patients were labouring; and, first of all, to the case of No. 6, of which the following history was taken at the date of his admission into the infirmary, on the 20th February, 1874: Patient is a married man, aged thirty-three, and a plumber by occupation. He has six brothers and three sisters alive and well: but his mother, who is sixty-eight years of age, has been paralyzed for four years, and his father died at sixty-five, having been paralyzed for some time before death. He seems to have been temperate in his habits, but his diet has been defective and his meals irregular. Until the present illness commenced he has always enjoyed good health. For two months during the summer of 1873 he was exposed to the fumes emanating from the action of nitric acid upon lead, and two months after this, in October of the same year, he began to complain of pain in the stomach, coming on immediately after taking food. During the Christmas holidays he caught cold by throwing off his flannel under-clothing, and after this the pain became much worse and was accompanied by vomiting. He now remained in bed for three weeks, and under medical treatment improved somewhat, but a few days after resuming work he complained of rapidly increasing debility; his legs began to swell, and all his previous symptoms returned in an aggravated form. The pain he describes as being burning or gnawing, giving him the sensation as if his stomach were on fire. At first, however, it was distinctly shooting or darting in character. The pain is greatly aggravated by taking food, but is relieved by vomiting, which generally occurs from three to seven hours after a meal. The vomited matters have latterly had a coffee-ground appearance on many occasions, and occasionally they have been as black as ink. He has all along suffered from flatulent distension of the stomach and bowels. His appetite has continued unimpaired until quite recently, although he did not dare to eat much on account of the pain induced by taking food. As a consequence, he has become much emaciated, and complains greatly of debility. He is very pallid, and his skin has a lemon tint. He has never been a smoker. Pulse 92; respiration 20; temperature 99.2°; tongue moist, red, and smooth; bowels very costive.

At the time of admission there seems to have been some suspicion of lead-poisoning; but on examining the abdomen, instead of retraction, which is usual in such cases, we found very decided distension; further, there was no blue line along the edges of the gums, nor was there the slightest tendency to paralysis of the extensor muscles of the forearm; so that the theory of lead-poisoning was dismissed as untenable.

The most prominent symptoms in the case were pain, vomiting, abdominal tumour, emaciation, and lemon tint of skin. The *pain*, at first shooting or darting, in the later stages gnawing in character, came on immediately after food was taken, was relieved by evacuation of the contents of the stomach, and did not return until another meal was partaken of. The *vomiting* usually occurred from three to seven hours after eating; the matters discharged having often a coffee-ground appearance, and being sometimes as black as ink. Again, on placing the patient upon his back, and inspecting the abdo-

men, we found that it was distended, and that it had an irregular outline, there being greater fulness on the left than on the right side. Percussion over the prominent part was distinctly dull, and produced decided uneasiness. On manipulation we found that the dulness depended upon the presence of a large *tumour*, apparently about the size of a child's head, occupying the epigastric and umbilical regions to the left of the middle line. This tumour was somewhat nodulated, and harder at some parts than at others. I need not dwell upon the other two symptoms—namely, the great and increasing *emaciation* and the *lemon tint of the skin*.

These are the symptoms from which we are generally warranted in concluding that the stomach is the seat of malignant disease: but, as we shall see presently, while the tumour was malignant, it was not connected with the stomach, but with the mesentery and jejunum. Such being the diagnosis, and the disease being evidently far advanced, it was apparent that a fatal issue might be expected at an early date. I need not dwell, therefore, upon the treatment, which was palliative, and which consisted of the regulation of the bowels by means of castor oil and warm-water enemata, the application of iced cloths to the abdomen for the relief of pain, and the administration of bismuth and strychnia in effervescence, to give tone to the digestive organs and to relieve vomiting. The diet consisted of milk, and small quantities of brandy in combination with iced soda-water were given occasionally.

This patient died within a few weeks of his admission; and, on post-mortem examination, a large tumour was found in the abdominal cavity. It involved the mesentery of the small intestines and the first part of the jejunum; while the walls of the ileum for a considerable distance were much infiltrated with the same material. The canal of the jejunum was represented by a large excavated cavity, the walls of which were formed by the tumour. The duodenum was for the most part free, except at its lower extremity; while the stomach contained a large quantity of brown fluid, but showed no evidence of disease. The large intestine was adherent to the tumour immediately above the sigmoid flexure. The tumour was smooth on the surface, and presented a slightly irregular outline; it measured six inches from above downwards, and the same distance across. On section it was pale; and on microscopic examination it was found to be principally composed of round cells, which were loose, but admitted of a section being made with ease. It was, in fact, a case of *lympho-sarcoma*.

From the other patient, who is a labourer forty-two years of age, and who was admitted on the 18th of February, 1874, the following history was obtained: One sister died in childhood, and his father has been an inmate of a lunatic asylum for some years; otherwise the family history is good. He has always been a steady man, but at times his diet has been poor, especially of late years. On two occasions he "lost his sight"—first when he was about sixteen years of age, and again about a year thereafter, and the sight has been indifferent since then. Four years ago, while carrying a twelve-foot plank upon his shoulder, he suddenly felt his head drawn to the right side, and his left arm and leg, as well as his head, began to shake. He retained consciousness, however, and sat down immediately, but the fit did not pass off for about an hour and a half, and it left a feeling of numbness in the arm and leg. On the following day he had two similar paroxysms, which were preceded by giddiness of a minute's duration; these continued for about a quarter of an hour, and were succeeded by violent pain in the forehead, which has never entirely left him, and which has been generally worst about eleven o'clock at night. He has had a great many fits in all, following one another at irregular intervals—sometimes being absent for days, sometimes for months; while one day he had as many as nine paroxysms. The last occurred four months ago. These fits have been associated with a gradually increasing weakness in the muscles of the left side of the face and of the left arm and leg. The pain in the head is often accompanied by eructations of sour fluid into the mouth, and occasion-

ally by vomiting, but without any preceding feeling of sickness; the vomiting is easy, and has no connection with the taking of food. Tongue moist and coated; appetite bad; bowels costive; pulse 72, natural; temperature normal. Of late he has felt so weak as to be unable to follow his occupation.

An ophthalmoscopic examination of the eyes was made by Mr. Whittaker, who reported congestion of the retina and its disk, with choroiditis in a slight degree. The paralysis of the left side of the face was very marked. The paralysis of the left arm and leg, though distinct, was very partial. Another feature in this case was the pain in the front of the head, which was dull and aching in character, and constantly present with paroxysmal exacerbations; it was usually most severe about eleven o'clock at night. In addition to these symptoms, giddiness was complained of, which was most marked on exertion; and vomiting, which, as we have seen, presented the characters of that symptom when dependent upon cerebral disease. The bowels were constipated.

These symptoms evidently pointed to cerebral disease; and the question we had to solve was the nature of the brain lesion. I was led to suspect that it might be dependent upon syphilis, and for these reasons: 1st. The pain in the head was decidedly worst at night, particularly about 11 P.M., so much so as to keep him free from sleeping; and syphilitic pain, as we know, is generally nocturnal in character. 2dly. Upon the left tibia, a little below the knee-joint, a painful swelling was discovered, evidently the result of implication of the periosteum, such as we frequently meet with in the later stages of syphilis. 3dly. The skin of the whole of the left side of the neck posteriorly was marked by cicatrices (the result, he said, of an "income" two years before admission), the edges of which were composed of segments of circles, such as we might expect to follow upon an ulcerated tubercnlous eruption.

Previous to my seeing him the head had been shaved, and blisters applied without benefit. On the 25th of March the iodide of potassium, in ten-grain doses, was prescribed; and, within five or six days of its commencement, the patient felt a great deal better, and was able to go about the wards; his appetite returned, his bowels became regular, and the pain in the head had entirely disappeared. This improvement was permanent; and by the 20th of April no trace of the paralysis of the arm and leg could be discovered, although that of the left side of the face continued, and still continues, in a modified form. The result of the treatment, then, proves pretty conclusively the correctness of the suspicion that the cerebral lesion was syphilitic in character.—*Lancet*, Oct. 21, 1874.

HOSPITAL NOTES AND GLEANINGS.

Nephritic Abscess; Tapping; Recovery.—This case is exceptional, and worthy of record, although the diagnosis cannot be further verified. A similar case came under Dr. Dowse's care some years ago, in a girl of the same age, where the kidney was found to be a mere sac without any trace of its original structure.

Harriet W., aged 18, was admitted into the Central London Sick Asylum, Highgate, under the care of Dr. Dowse, with the following history: Five months previous to her confinement she experienced severe pain in the right lumbar region, which continued more or less until the time of her delivery, and almost immediately after the child was born pus was observed in the urine. When first seen after admission she was much exhausted, the pulse was weak, respiration hurried, the cheeks were suffused with a hectic flush, and the body bespattered with patches of erythema, in some parts nodose, in others purpuric. She was of a jaundiced hue, and there were other signs and symptoms indicative of blood poisoning. The pain in the abdomen was severe, but confined more particularly to the right lumbar region.

Upon examining the abdomen a swelling was found to occupy its right half, of regularly rounded and well-defined outline; it merged into the hypochondriac, umbilical, and inguinal regions, but filled up the whole of the lumbar. There was distinct fluctuation anteriorly as well as

over the region of the kidney posteriorly. The urine was loaded with pus. With treatment the abdominal pain lessened, and the general health improved. The swelling continued to increase in size, and the urine to contain less pus until it was absolutely free. It was then decided to puncture, and an ordinary trocar was freely inserted, which liberated about twenty ounces of stinking, glutinous, purulent matter. After the trocar was withdrawn, the aperture was allowed to heal, and again pus made its appearance in the urine, and the swelling increased larger than ever. It was once more emptied, and kept so by means of a drainage-tube. For a week the discharge continued to make its escape freely, but produced little constitutional disturbance, the patient's temperature never exceeding 99°. From this time all pus-formation appeared gradually to cease; she made flesh, and left the building in excellent health.—*Med. Times and Gaz.*, Dec. 5, 1874.

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Bleeding Fungous Growth from the Urethra in a Case of Hemorrhagic Diathesis.—The following case, admitted into the Loudon Hospital, under the care of Mr. HUTCHINSON, is an illustration of the manner in which the hemorrhagic diathesis often runs in a family and affects several or all of the members of it. As a rule, however, the tendency to bleeding is most marked in members of the male sex. It has several times been found, for instance, that all the male members of a family were thus affected, while all the females escaped; at least, they did not themselves manifest it, although all the male children they bore were the subjects of the hemorrhagic diathesis, but all the female children were free. In this instance, on the other hand, the history shows the tendency to be almost entirely confined to the female members of the family.

Elizabeth P., aged thirty-three, had suffered for five or six years from a bleeding growth of the urethra. The bleeding first came on about five years ago, after severe muscular exertion. The patient had been in several hospitals, provincial and metropolitan, without gaining any permanent relief. Four years ago she was in this hospital for ten months, during which time the growth was removed by the knife and the cautery, but it returned about December last. Since then she has been subject to severe hemorrhages from the part. On April 4th she was again admitted, and the actual cautery was applied, with some relief from the bleedings for a few days.

The interest of the case lies in the fact that there is a family history of the hemorrhagic diathesis, and also of recurrent (? malignant) growths. The mother's sister had a "bleeding cancer of the lip," which was removed, but re-formed on the tongue. One sister is subject to severe epistaxis, and the patient's son has been affected with epistaxis for three years. Another child died at the age of six years with bleeding from the nose and mouth. A sister of the patient has severe floodings after parturition, and has also a large red tumour of the left upper eyelid, which has been removed twice.—*Lancet*, Dec. 12, 1874.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Rupture of the Bladder.—Dr. ERSKINE MASON (*New York Med. Journ.*, Dec. 1874) presented to the New York Pathological Society an interesting case of rupture of the bladder, showing the obscurity that may attend this injury.

The patient was a boy of eleven years, who entered Roosevelt Hospital July 8th, having been injured on July 2d by receiving a kick in the perineum. There was not much pain complained of at the time, but some hours after he was unable to pass his water, though he did so subsequent to the injury. In forty-eight hours his retention was relieved by the catheter.

I examined him on July 10th, and found no contusion or apparent injury of the perineum.

12*th*. Passed bloody urine, and complained of pain over the pubes.

19*th*. Was given a hot bath, and was then able to pass a few drops without the

assistance of the catheter. Up to this time the quality of the urine varied; at some times it was clear, at others purulent, and again it would be of a dark-brown colour.

20*th*. At 5 P. M. became drowsy. Respiration slow, and patient became cyanotic.

21*st*. Complained of more pain. On introducing the catheter it was found to meet an obstruction at the neck of the bladder. Examining by the rectum, a large swelling was found behind the bladder, resulting from pelvic peritonitis. At this time the bladder was opened by the same operation as that of lateral lithotomy. When the finger was carried in, a soft tumour was discovered. Several hours later the bladder became again distended, and had to be relieved by the catheter through the wound.

22*d*. Examined the bladder again through the wound, and pushed something upward before the finger.

24*th*. Dilated the wound by Sir Henry Thompson's dilator, the catheter being of no avail. At this time tympanites appeared, with a good deal of pain, which in a day or two passed away.

28*th*. Pus began to drain away from the wound, and continued so till the patient died.

August 8. Diarrhœa set in accompanied with pleurisy.

11*th*. Patient died.

Autopsy—Bladder.—A rupture was found at the side, near the neck, on the side opposite to that of the operation. In the specimen it was only large enough to pass a lead-pencil through. The urethra was also ruptured. One of the results of the rupture was pelvic peritonitis, which bound the rectum to the bladder at its base. It is a point of interest to know that the patient did not die shortly after the injury, which is to be accounted for mainly by the reason that the urine did not escape into the peritoneum.

Dr. Mason stated also that he had operated on a patient two years ago for rupture of the bladder in a manner similar to the one just mentioned, and that the patient lived forty-one days.

Dr. Peaslee had a like case which lived forty-two days.

Dr. Mason was of the opinion that, if he had made an examination by the rectum when the patient entered the hospital, he might have had his attention directed to the true nature of the case, but at that time there was no indication of serious trouble, and even for ten days or two weeks he was able to run about the hospital grounds and play.

—

Resection of the Hip in a Child of Twenty-one Months.—Dr. Sayre (*New York Med. Journ*., Dec. 1874) presented, at a recent meeting of the New York Pathological Society, some small specimens of bone removed from a patient aged twenty-one months, under the following circumstances: Three months before, the child had double pneumonia, and, shortly after recovering from it, fell on its left side, with the limb abducted. The patient was in charge of Dr. Husted, who found, some weeks later, an inflamed gland in the inguinal region, which was followed by an abscess. Dr. Husted aspirated this and removed two or three ounces of pus: an opening was then made into the abscess, and it was allowed to discharge. The limb was markedly œdematous when seen by Dr. Sayre, and after anæsthetizing the patient and extending the incision, the end of the femur was found to be eroded. At the end of a week the former incision was carried sufficiently far upward to allow the eroded head of the femur to be removed by means of a metacarpal saw, without changing the position of the limb. After the operation Dr. Sayre carried his finger down posteriorly till the skin was reached, and having opened it introduced a tent and closed the wound anteriorly. The little patient did exceedingly well, though it had never received any nourishment except from its mother's breast.

Dr Sayre said this was the youngest patient he had ever operated on.

—

Deaths from Chloroform.—In the *Boston Med and Surg. Journ*. (Oct. 1 and 8, 1874) is recorded the case of a strong and healthy brakeman, who, on Sept. 26th, died in the office of a dentist in Boston, while under the influence of chloroform inhaled for the extraction of a tooth. The

autopsy showed no disease sufficient to account for the death. The heart was healthy, and the blood throughout the body was fluid. The coroner's jury found that the chloroform was the cause of death, declared its use to be unjustifiable, and recommended the enactment of a law to prohibit its use as an anæsthetic.

In the *Canada Medical Record* for November, 1874, is mentioned the death of a lady at Kingston, caused by chloroform inhaled prior to the extraction of a tooth.

—

Croton-oil Paint.—Dr. JOHN W. CORSON recommends (*Med. Record*, Dec. 1), as a counter-irritant in pleurisy and various other affections, the following, which he names croton-oil paint:—

No. 1. Milder croton-oil paint.

℞.—Olei croton tiglii, ʒj;
Ether. sulphur. fort. ʒij;
Tinct iodin. ʒv.—M.

Two or three coats at a time to be applied with a camel's hair brush, over a small surface once a week.

No. 2. Stronger croton-oil paint.

℞.—Olei croton tiglii, ʒij;
Ether. sulphur. fort. ʒiv;
Tinct. iodin., ʒij;
Potass. iodid. ℈j;
Iodinii, gr. x.—M.

S.—Paint as above.

—

Extirpation of a Fibro-cystic Tumour of the Uterus, with the latter and its Appendages.—A case of interstitial fibroid tumour of the uterus in which this organ with the left ovary was extirpated by Dr Wood, of Cincinnati, was reported (*St. Louis Med. and Surg. Journ.*, Dec. 1874) to the St. Louis Medical Society, Oct. 3d. The patient died forty-three hours after the operation. Dr. Wood, it is stated, has performed this operation five times, with three recoveries.

Dr. E. H. TRENHOLME records (*Canada Med. Record*, Nov. 1874) a case of fibro-cystic tumour of the uterus, in which he extirpated this organ with its appendages. "The tumour weighed sixteen pounds, includiug the uterus and ovaries." The patient entirely recovered.

—

Age in Relation to Child Bearing.—At a late meeting (Nov. 20) of the New York Library and Journal Association Dr. FORDYCE BARKER (*Medical Record*, Dec. 15, 1874) read an interesting paper on this subject.

The conclusion at which he arrives is that the laws of physiology, the experience of mankind, and decisions of the courts will justify the medical witness in declaring that a woman over fifty-five years of age is past the period of childbearing.

—

Menstruation and Ovulation.—In the discussion which followed the reading of the above-mentioned paper, the relation of menstruation to ovulation was questioned. Dr. BARKER replied that menstruation and ovulation are most frequently coincident, but they do not necessarily bear the relation to each other of cause and effect (without entering upon theories): (1) because the one may exist without the other, as proven by numerous well-authenticated cases; (2) cicatrices have been found in ovaries, indicating rupture of Graafian vesicles, many years previous to the appearance of menstruation; and have also been found in old women (fresh cicatrices) after menstruation had ceased for a long time; (3) we now have eight well-authenticated cases in which women have menstruated and continued to menstruate after both ovaries were removed, rendering ovulation impossible. This, to him, was conclusive evidence that menstruation or monthly sanguineous flow is not dependent upon ovulation.

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American Medical Degrees.—These are getting more and more out of repute in Great Britain through the sale of diplomas from institutions in this country which claim the privilege of issuing them. It appears, from recent journals, that a man has been fiued, in Dumfriesshire, for appending his name with the letters M.D., to a certificate of death. The man produced a diploma from the *Livingstone University* iu America, and the *Edinburgh University of Chicago*. [Are there any such institutions having a legal existence?] The *Lancet* observes (Nov. 21), "it is well known that degrees in America are

as plentiful as mushrooms." . . . For the prosecution it was shown that Dr. Robertson, secretary to one of the colleges in question, and who is at present in London, had offered to grant a degree from the same university as that from which the defendant held his diploma for £10, without the necessity of a course of study, and without examination.

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Changes in Medical Journals.—The *Medical Record*, it is announced, is hereafter to be issued weekly, and the subscription price raised to five dollars per annum.

The proprietorship of the *Boston Medical and Surgical Journal* has been transferred by Messrs. David Clapp and Son to the present editors, and the Journal will be hereafter published by H. O. Hougbton and Co., 219 Washingtou Street, Boston.

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The American Naturalist, a Popular Illustrated Magazine of Natural History.—We would iuvite attention to this extremely interesting and well-conducted periodical, which, we regret to learn, requires more subscribers to make it self-sustaiuing. The subscription price is only four dollars a year. Address *American Naturalist*, Salem, Mass.

FOREIGN INTELLIGENCE.

Croton-Chloral and Chloral in Diseases of Children.—Prof. Bouchut, in a note addressed to the *Gazette des Hôpitaux* of December 5, thus speaks of the comparative advantages of these substances:—

"Crotou-chloral, which has been spoken of lately, does not possess all the properties of ordiuary chloral, aud is not destined to replace it. I may first observe that the hydrate of chloral has not the same actiou iu the adult as in the child. Iu the former it is hypnotic, but does not produce anæsthesia, at least in the doses ordinarily given by the mouth. So acrid is its taste that it cannot be carried beyond from six to eight grammes, and even at this dose the stomach revolts, while absolute insensibility is not obtained from it. This is not the case in children, in whom the stomach supports the remedy better, so that with three or four grammes we can produce in them sleep and complete anæsthesia. So great is the insensibility that abscesses may be opened and teeth extracted without pain. In my ward, the children take the chloral at eight o'clock, and at nine the dentist extracts their teeth, they not waking until three hours later without being aware that any operation has been performed. Hundreds of cases have exhibited these facts to those who attend my hospital practice. Croton-chloral, of which I have made twenty trials, seems to me to possess but one advantage over chloral—that of having a less acrid and disagreeable taste. When sleep alone is desired the croton-chloral may be given, but if we wish to produce anæsthesia the hydrate of chloral is to be preferred, as in equal doses the croton-chloral is less active than chloral."

After detailing the experiments which he has made, showing that the croton-chloral exerts little or no anæsthetic power, Prof. Bouchut continues:—

"In presence of these results, it seemed to me useful to ascertain on the same subjects what was the action of chloral. As all these children were suffering from chorea, in which I have discovered the efficacious action of this substance, this was easy to do. To seven patients three grammes of chloral were given, and in five of these there was produced deep sleep, great resolution of the limbs, and sufficient surgical anæsthesia for opening abscesses or extracting teeth without pain. In the two others there was sleep of two hours and a half, but hardly any anæsthesia. To sum up: Croton-chloral has weaker properties than chloral. It induces sleep, and may be used as a hypnotic in cases in which we fear the irritating action of the chloral on the stomach; but if we wish to induce anæsthesia, chloral is to be preferred."—*Med. Times and Gazette*, Dec. 12, 1874.

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Treatment of Hooping-Cough.—M. Maximin Legrand, in the course of an account of a visit to the Hospital St. Charles, at Nancy, published in *L'Union Médicale* for October 8, refers to the successful treatment of hooping-cough and hysterical coughs generally by sulphurous treatment.

LECTURES ON FEVER.

PART I.

ESSENTIAL FEVER AND ITS SECONDARY AFFECTIONS.

LECTURE I.

Introductory—Injurious influence on the student and practitioner of having studied surgical cases exclusively—Influence of timidity from want of intimacy with bedside treatment of fever—Erroneous views in relation to the frequency of inflammatory disease—Inflammation not the primary cause of many local though acute affections—Errors of Broussais—Abuse of the antiphlogistic treatment.

Several of the hospitals in Dublin, considered as schools for clinical study, have the advantage of being essentially medico-chirurgical hospitals—that is to say, that in them the student, in connection with his surgical pursuits, may see and study most forms of the so-called medical diseases, which include not only the acute and chronic local diseases, but the various forms of essential affections, including continued fevers.

I am anxious to draw the attention of the surgical student to the all-important subject of fever; for when we consider the enormous extent to which this fell disease, or group of diseases, prevails over the world, and also that it is in itself a special study, we cannot help believing that the student who has not dealt with fever, no matter how ably he may have been educated in surgery and in the history of visceral diseases, has but half learned his business.

The importance of a practical knowledge of fever, as distinguished from that obtained from books or lectures, is not yet sufficiently impressed on the surgical student. If such a one possesses a reflecting mind, he will have abundant and bitter causes of regret at having neglected his hospital opportunities, whereby alone he can obtain that intimacy with the subject which will be his guide and safeguard in after-life. It is in the fever-wards alone that he can learn the priceless lesson that there is a large class of diseases, whose nature and property it is to get well of themselves, which require little or no

medication or daily interference. This lesson is not to be learned from purely surgical studies, one effect of which leads in medicine to the *nimia diligentia*, so common a fault in practice, so clear a sign that the medical mind has not been formed. He will see that what the patient requires is in many cases only time, and to be kept from sinking by proper support. He will come to learn how this great fact of the spontaneous cessation of disease bears on all therapeutical research in fever by showing him that he is not to confound the *post hoc* with the *propter hoc*. He will learn that there are few questions more difficult of determination than the effect of any special remedy, or even general mode of treatment in diseases which are under the law of periodicity; and thus he will be taught caution in drawing conclusions as to his own practice, while he will be charitable in reflecting upon that of others. Take for example the case of rheumatic fevers. How long have physicians been seeking for a specific treatment? Venesection, blistering, mercury, opium, bark, alkalies, acids, have all had their advocates, whose statements are supported by genuine cases, and yet the question remains unsolved; would not the disease have subsided of itself as well, and as quickly, as under any specific treatment? And in case of recovery, may not this even have occurred *notwithstanding* the treatment?

I heard with great pleasure the report by my distinguished friend Dr. Sibson, read at the meeting of the British Association at Newcastle-upon-Tyne, in which a long series of cases of rheumatic fever was detailed as having been successfully treated without any medicine beyond small doses of peppermint water—given, I presume, to satisfy the minds of the patients that something was being done for them beyond keeping them warm in bed till the disease subsided.

It is not to be understood that Dr. Sibson does not recognize the frequency of local inflammation in rheumatic fever, and the necessity of meeting it in many cases. But his researches are directed to show the comparative uselessness of a specific treatment.

I well remember the time when surgeons, who had been otherwise well educated, but had never in their student days seen or attended a case of typhus fever, objected to deal with such a case, and were of course, from apprehension of contagion, more or less ineffective when brought to perform any operation such as catheterism, and so on.

All students who are looking to the public service, whether in the civil, military, or naval department, should be taught by those who assume their direction or instruction that they cannot tell when they may have to deal with fever even on a great scale, and that, as the principle of treatment of all fevers is the same, the study of the dis-

ease at home will fit them to meet the yellow fever, the bilious remittent, the camp fever, the plague of the Levant, and the cholera of India.[1]

How few of our surgical students are aware of the fact shown by Sir Gilbert Blane that in the Peninsular War more men died of fever than from all other causes, including the sword.

But, further, the student who confines himself to merely a surgical ward often enters on his profession unfitted by timidity to meet his foe. I have known several instances where surgeons in civil practice, though willing to do their duty, were always nervous on entering a fever ward. I do not say that such men were cowards in the ordinary sense of the word, or that the feeling of danger would make them shrink from discharging their duty; but there is a condition which may be described as physical fear, distinct from moral fear; a condition of susceptibility to contagion, which is doubtless lessened by intimacy with disease. I know of a gentleman who was called to inspect the body of the first victim of cholera in the earliest and great epidemic of 1832. The case occurred some miles from Dublin. During his return he had many of the symptoms which threaten an attack of cholera. He had the abdominal pains, the feeling of imminent death—"the cold meditation of death" of the old authors—cramps, and other symptoms. For two days these recurred. The epidemic shortly afterwards burst out with violence in the city, when, feeling that if this condition persisted he would be unable to do his duty, he entered a crowded temporary cholera hospital, where he remained for thirty-six hours in close attendance on the sick. During the first eighteen hours seven patients died, it may be said, in his arms. I need not say that all the yielding of the system he had shown rapidly disappeared. I know of another case, where a gentleman, now an eminent member of the profession, was cured of repeated attacks of cholerine by undertaking the office of house surgeon to a large cholera hospital, where, under the direction of the late Dr. Mackintosh, he had to conduct the treatment by venous injection in many cases. To mention a third instance, the case of Mr. West and his party is quoted by my father, Dr. Whitley Stokes, in his pamphlet on Contagion.[2] During the expedition to Egypt under Sir Ralph Abercrombie Mr. West was ordered to take charge of a pest hospital at Rosetta in the beginning of May, 1801. In this house he was shut up for four months. His staff consisted of an assistant surgeon, an Italian; an English soldier; and of Arab servants. "No one of the party took

[1] See Swan's Edition of Sydenham, page 75.

[2] Observations on Contagion, 2d edit., Dublin, 1818.

the disease, although Mr. West operated and dressed the buboes himself, and treated sores from anthraces so extensive that half a pound of flesh sometimes came off by sloughing; and although the servants washed the sheets, bedding, and bandages, rubbed the patients with mercurial ointment extensively, supported the faint, tied the delirious, and buried the dead. In short, they were exposed as fully as possible to contagion. At this time the plague was so severe at a village twenty-five miles from Rosetta that one-fourth part of a population of 400 died within a month. I have said that none of the party took the disease. Great attention was paid to cleanliness, and the house was a roomy building, situated on an elevated bank over the Nile and exposed to the northwest sea breeze.

On this singular result Dr. Stokes remarks, "Mr. West's deep interest in the discharge of his duty and in the improvement of his profession must have contributed to turn his mind from the selfish melancholy contemplation of his personal risk, a risk which one of our best officers fairly compared to that of a hundred battles. Such has been the triumph of good sense, temperance, firmness, and industry; and Mr. West has earned a civic crown which some men will venture to compare with the laurels of the greatest conquerors."

The surgical student who has not studied fever in the living subject, and himself felt the responsibility of its management, is in this position: the doctrine of the universality—or of the extraordinary frequency, whichever you will—of inflammation has been impressed on his mind in every possible way, for the ordinary practice at the commencement of a course of surgery used to be to occupy the student for many weeks with the history of inflammation. Inflammation is thus placed in the foremost rank. It is the great thing to which his earliest attention is directed, and naturally it appears to him to be the key to all medical and surgical knowledge. It is still more impressed upon him by the kind of experience he gets during a considerable part of his studies. That experience is obtained in a surgical ward, and it is hence very natural that he should have exaggerated notions of the importance and frequency of one morbid process. Too often at the end of his course he finds that he has been taught only inflammation, he has seen little else than inflammation, and he *believes* in little else than inflammation. A great many students are educated in this way, and they go forth to the world ignorant of two facts in practical medicine and surgery, the importance of which cannot be overrated. The first is the existence of an enormous number of acute and dangerous diseases which are not inflammatory—of diseases, as I said before, which are acute, which are dangerous, and still further,

which are febrile. The idea has never been impressed on their minds that there may be a local, acute, febrile, and most dangerous disease which is not only, to use the words of a recent author, not inflammation, but something the very opposite of inflammation. When we consider that it is in the various forms of fever that these conditions are met with, and when we recollect the extent to which fever prevails over the world, we are justified in declaring that when we compare diseases in which inflammation is the primary condition with those in which it is not, the former fall immeasurably short of the latter in number and importance.

The other great fact is that the student has not learned the error of exclusive antiphlogistic treatment in the management of ordinary primary inflammation. From not having had to deal with local diseases, which require not the lancet, not starvation, but rather tonics and wine, he has never become accustomed to, or familiar with, the latter remedies. He is timid in the use of these measures, and even in the ordinary primary diseases he follows too long the common rule of antiphlogistic treatment instead of changing in time to one of a tonic and stimulating nature. The erroneous application of the antiphlogistic method arose subsequent to a change of doctrine from humoralism to solidism.

In order to get a clearer notion of this matter, let us go a little back. Before pathological anatomy became a science it was held that a large number of diseases depended on the alterations of the fluids. But when anatomy was directed to the investigation of disease medical opinion underwent a change, and solidism succeeded to humoralism. Disease was then an alteration of the solids, the living tissues of the body. Now, I wish to impress upon you that solidism, as was then understood, soon came to mean more than its original name would imply; and solidism *plus* the doctrine of inflammation became the ruling dogma of the day.

For the same mode of investigation, which established the frequency and variety of alterations of the solids, showed that in many cases there was a common character recognized as the result of inflammation. This paved the way for the introduction of the so-called physiological doctrine, which referred all diseases to alterations of vitality in the solids—not generally as affecting the whole system, but local—not differing from one another by any special characters, but in degree only. A disease was, then, either a *plus* or a *minus* vitality in the affected organ, and its symptoms were explained by the sympathies of that organ. But as so many diseases were attended with vascularity, deposition, and increased sensibility, it was inferred

that most local affeetions, and the more important diseases, were examples of augmented vitality in the part, producing not only the local symptoms but those also which arose from the sympathetic irritation. This doctrine spread rapidly, and there were many reasons why it should do so. It was specious, simple, and had for its founder a man of extraordinary energy and eloquenee. In this world any doctrine which is novel and has an energetic and eloquent apostle will not want for eonverts, and Broussais was a man of great talent, experience, and praetieal knowledge. He was, however, deficient in reasoning power, and, in my opinion, an imperfeet pathologieal anatomist. The doetrine became popular on the Continent from the faeility which it promised in the treatment of disease, for as the great majority of diseases was symptomatic of the *plus* vitality of some organ, we had only to discover the part in which this exeess of life was seated, and to modify it, of course, by antiphlogistie treatment.

When the investigations of Broussais and his followers were directed to the examination of fever cases, it was found, on the Continent more especially, that loeal disease frequently existed in the gastro-intestinal tube. At onee, then, the doetrine followed, that fever formed no exeeption to the rule—that it was symptomatic of a *plus* vitality of the gastro-intestinal tube; and we were led to believe that fever could be at once cured by leeehing, by starvation, by poultices to the belly, and by such means.

It is curious that there are some eireumstances connected with fever which greatly tended to prop up this doctrine. We shall see by-and-by, that an essential condition of fever is periodicity; that it is a disease whieh has a tendency to spontaneous termination at a given time. It is like a paroxysm of ague, only prolonged as it were. This will give the best idea of fever. This mysterious law of periodicity implies that the system has the power of curing itself—that is to say, that the diseased action will spontaneously subside either suddenly or gradually. Now, it is found that there are a variety of eireumstanees which interfere with the operation of this extraordinary law of spontaneous eure. One of these is the existenee of a loeal irritation in any part of the system.

We see this remarkably exemplified in cases of ague. We shall very often find that in cases of intermitting fever the treatment by bark will not sueceed; and when we come to inquire the eause of this, we find that there is some local inflammation present. If we can remove that local inflammation, then the treatment by bark suceeeds. Broussais appealed strongly to the following faet: that in cases of fever, after free depletion of the abdomen, the patients speedily re-

covered. So they did; but the nature of the fact was misinterpreted. Those patients had a local secondary disease in the intestine, which interfered with, or prevented, the operation of the law of periodicity. When that local disease was modified or removed, the law of periodicity came again into action, and the patient recovered. The fever did not subside because it was symptomatic of a disease of the intestine; but it subsided because, the disease of the intestine being removed or modified, it was reduced to its normal state, as it were to its state of simplicity, and then the law of periodicity was enabled to act.

The doctrine of the purely symptomatic nature of fever was received extensively on the Continent, in America, and in England and Ireland, but not so extensively in the schools of the two latter countries. There was a much greater reluctance to the reception of the physiological doctrine in this country and in England than on the Continent, or in America, and this is highly creditable to the British and Irish medical mind. Many reasons might be adduced to explain why this was so, but we shall not enter at length into them. I may, however, observe that English medicine had received a great degree of excellence from the writings of the old masters in England—from the writings of Sydenham, Haygarth, Fothergill, and other men of that order. These great medical observers had, unknowingly, taught the true medical philosophy. They had taught a rational eclecticism, and hence they implanted in the minds of the British medical investigators great reserve and extreme caution in the reception of new doctrines.

Still, however, upon the younger members of the profession the doctrine had a wonderful influence. A large number of the junior members of the medical and surgical profession in this country, during the last quarter of a century, or perhaps the last half century, were strongly imbued with this doctrine, and went forth to practise over the world, influenced by the theory of inflammation being the sole cause of diseases, and believing that the whole practice of medicine was reduced to the removal of local inflammation.

Another cause, however, I cannot help noticing here. About this time, owing to the unhappy and calamitous division of the profession into medicine and surgery, arose those corporate distinctions that have done so much to retard the progress of science in these countries; exclusive schools of surgery sprang up, and consequently, as I observed at the commencement, a large and increasing number of young men were educated without having ever seen a case of fever. They were educated in surgery; they were educated in a surgical ward, and were sent forth naturally advocates of inflammation, because they had

seen nothing else; and thus, ill prepared, they went forth to combat fever—that disease which numbers more victims than any other—over the wide dominions of the British crown, in America, in the West Indies, in Asia, in Africa. These men in hundreds—I may say thousands—went out ignorant of the fearful enemy they had to encounter, and trusting in the teachings which compared the ordinary phenomena of ophthalmia, or those of the healing of an incised wound, or those of the cicatrization of an ulcer, with the symptoms of that terrible group of diseases which embraces the plague, the yellow fever, the bilious remittent, the malignant ague, and the typhus fever.

There is nothing more difficult, gentlemen, than for a man who has been educated in a particular doctrine to free himself from it, even though he has found it to be wrong. There is something in a human mind which renders the reception of a doctrine, if it be a bad one, a most dangerous circumstance. It is like the imbibition of a particular poison or miasma. We find that some men who have been once exposed to the miasmata which induce intermitting fever will, for nearly the whole course of their lives, be incapable of getting rid of that influence which has been once received. And thus it is not only with physical but with moral or intellectual impressions.

I have said that it is difficult to unlearn. This fastening of false doctrine in the mind is one cause; but there are other causes too. The indolence of many men prevents them taking the trouble to unlearn. The pride of many men has the same effect; and, above all things, there is this, that a very large number of students, not only of surgery, but of medicine, although they were taught the technicalities of the profession—the alphabet of their profession, as it were—were not taught what is infinitely more important, namely, how to teach themselves. Now, this ought to be the grand object of every teacher of medicine, and, indeed, of any science of observation. I believe that no man can be fully and entirely taught anything. He must teach himself. And what the teacher has to do, and what I have ever set before myself as my highest duty, is to endeavour to teach you how to teach yourselves.

We can easily anticipate what the result of all this must have been; and I believe I am not saying too much when I declare that a large proportion of the fearful mortality to which our gallant army has been subjected in the colonial service has been owing to the circumstances to which I now draw your attention—the fact of the medical officers going out with erroneous doctrine fastened in their minds.

This name of inflammation is an unfortunate one, and it is to be regretted that it was given to the process in question. It gives the

idea of a fire which must be quenched by its opposite, water; of a heat which must be quenched by its opposite, cold; of vascularity—fulness of the bloodvessels—which must be met by measures which will empty those vessels. It gives the idea of a fever, an excitement which is only to be met by abstinence, by starvation, or, as the French term it, *diète absolue*, which means no diet at all. The fact is, gentlemen, that the formula of *contraria contrariis* has as little title to respect in legitimate medicine as that of *similia similibus* in quackery. Both are false; and I really believe that any exclusive application of either formula is both ignorant and mischievous in the highest degree.

The next great error was, that although the surgical student had plenty of opportunities of seeing symptomatic fever, he had no opportunity of seeing the essential fever, and he naturally confounded the two together. And hence, in this country and abroad, for many years the abuse of the antiphlogistic treatment was carried to an extent which it is frightful to contemplate. Conditions of the system which required wine, bark, stimulants, careful nutrition, were met by the lancet, by leeches, and by starvation. I remember when I was a student of the old Meath Hospital, there was hardly a morning that some twenty or thirty sufferers from acute local disease were not phlebotomized. The floor was running with blood; it was dangerous to cross the prescribing hall for fear of slipping; and these scenes continued to be witnessed for many years. The cerebral symptoms of typhus fever were met by opening the temporal artery, or by a large application of leeches to the head; and it sometimes happened that the patient died while the leeches were upon his temple—died surely, and almost suddenly. An eminent apothecary in this city assured me that when he was serving his apprenticeship there was hardly a week that he was not summoned to take off a large number of leeches from the dead body. I mention these circumstances to show to what extent, even in our own country, the abuse of this doctrine had been carried. It is not so now. Those who have been in the habit of attending fever hospitals in this country will bear me out when I say that the lancet is an instrument now very seldom indeed employed in our wards. But while all this is true, it must be understood that I am far from going the length of some modern physicians in their wholesale condemnation of the antiphlogistic treatment in various forms in the management even of essential fever. To this subject I purpose to return in my next lecture.

LECTURE II.

Change of Practice as regards the treatment of fever—Change of type in disease from sthenic to asthenic—Views of Alison—Sir Robert Christison—The author's views—Evidence (1) from symptoms, (2) from appearances of blood drawn by venesection, (3) from pathological appearances of internal viscera, and of serous membranes, (4) from isolated sthenic cases, and (5) from influence of treatment—Signs of a return to sthenic forms of disease—*Vital* character of disease.

Based on the doctrine that local inflammation or irritation was the exciting cause of febrile disease, we observe the wide-spread adoption of an antiphlogistic treatment in fever. The doctrine of essentiality of disease was ridiculed. Venesection in fever was common, and its traditional employment was supported by modern theory; the use of wine and other stimulants was forbidden, and many a life was sacrificed to this unphilosophical method of looking at disease.

But for nearly half a century we observe a change in practice in the opposite direction. General blood-letting is rarely practised; local bleeding in a very modified way; while stimulants have been, by one school, clearly employed in an unjustifiable manner.

So complete was the change in practice, that venesection, from being a routine treatment, the performance of which was entrusted to junior students, became the rarest of surgical operations. Within the last twenty years I have known several surgeons who had never performed or even witnessed the operation. I remember having to instruct a hospital surgeon of remarkable ability in the operation. For a period of nearly twenty years the use of the lancet was unknown in our wards, and in latter times, when venesection was occasionally practised here, it was instructive as well as amusing to see how the class crowded round to witness for the first time a proceeding so unusual.

We can hardly conceive a revolution in practice more complete. In place of the loss of blood we have the exhibition of stimulants. In place of a system of almost starvation we have the careful use of nutriment.

This change in practice, depending on change in the vital character of disease, was followed by the charge against many of our predecessors and teachers that they were mistaken practitioners, ignorant of true pathology, and little better than blind followers of traditional error. Not only have their powers of observation been questioned, but even

their morality and honour have been assailed; and it has been suggested that the whole doctrine of change of type in disease was an invention to cloak former errors.

It is interesting to note that this is not the first time that charges of a similar kind have been brought against the profession. Thus Broussais arraigned the existing and former practitioners for not treating fevers and acute diseases by local bleeding and starvation. Can there be stronger evidence than this that our modern practice is not a novelty? All his predecessors were in error, because they practised as we do now. I say that this charge was remakable, inasmuch as the author's views largely influenced European practice for many years.

But the thinking man finds it hard to believe that the fathers of British medicine were always in error, or that they were bad observers and mistaken practitioners. They, indeed, have rested from their labours, but their works remain; and he who reads the writings of Sydenham, of Haygarth and of Fothergill, of Heberden and Fordyce, of Gregory, Cullen, Alison, Cheyne, or Graves, must have a very inapprehensive mind, if he fail to discover that there were giants in those days, and that the advocacy of such ideas only indicates a state of mind not consonant with the modesty of science.

The declaration that it has been or can be proved by a more advanced pathology that bleeding never was the proper remedy for fevers and inflammations has as yet no scientific ground. It is not yet given to us, notwithstanding all our advance in normal and in morbid anatomy, in the physiology of health or of disease, to be able to say, from the most minute examination of the dead organ or structure, what were *all* the conditions which attended it during life, under the influence of disease; what were its local vital phenomena; what was the accompanying constitutional state, whether sthenic or asthenic.

But, let us ask, which is the more probable of these two suppositions? First, that our predecessors were bad observers, incapable of divining the truth, and blind adopters of an antiquated and mischievous method—or, secondly, that the type of disease has changed, and that almost in our own time. It fortunately happens that we can examine a living witness of great authority in this matter, and can refer to the works of two more who have left us their written testimony. Sir Robert Christison is still among us, in health and intellectual vigour—long may he be so—Dr. Alison and Dr. Graves have been but lately removed.

Now, all these testify that the character of disease has changed from a sthenic to an asthenic type; that is to say, from a condition in which inflammatory action was the prominent feature to another where that

state was absent, or, if present, only ephemeral—a condition observable in essential and local diseases, in which the antiphlogistic treatment agreed well, and was productive of great relief, to one in which a tonic, stimulant, and supporting *régime* was found the best method of guiding the system to a happy termination of the disease.

It is very important to note that these views were not formed from any historical study of the recorded labours of others, but come before us as the actual observations of the great men whose names I have stated. They tell us that which they know—that which they themselves have seen. If we refuse this collective though separate and independent evidence—if we hold, with Professor Bennett and with Dr. Markham, that the doctrine of change of type is untenable—we must believe one of two things: either that these distinguished men were deceived or were themselves deceivers. From this alternative there is no escape.

Let us hear Dr. Alison: "When we reflect on these facts, we cannot think it unlikely that the result of the inquiry which I have stated as so important may be to show either that all causes capable of exciting diseased action in the animal economy, or, more probably, that the liability to diseased actions in the different departments of the animal economy itself, are subject to variations, which are made known to us only by the variation of such phenomena themselves; occurring merely in the natural course of *time*—an element affecting all vital phenomena quite differently from its agency on inanimate nature; and the effects of which, on living beings, we must take as ultimate facts, to be carefully observed, arranged, and classified, but which we are not to expect to be resolved into any others, which the study of this department of the works of Providence presents."

When I read these words of Alison, the best man I ever knew, it is with a feeling of wonder how it has happened that men should forget what reverence is due to his memory, whether we look on him personally as a man of science and a teacher; or at his life as an exemplar of that of a soldier of Christ.

Sir Robert Christison[1] shows that the change of treatment in acute diseases is to be considered with reference to fever as well as to local affections. He bears witness that the abandonment of bleeding in idiopathic fevers preceded by a good many years its abandonment in acute inflammation; and that this change in practice took place gradually in all acute inflammations, not alone in pneumonia, because of the improved diagnosis of the disease, but in all others, in many of which

[1] Memoir on the Changes which have taken place in the Constitution of Fevers and Acute Inflammation in Edinburgh during the last Forty-six Years. 1856.

no sensible progress in diagnosis had been made. Looking at the fever epidemics of Edinburgh from the beginning of the present century, he shows conclusively that in 1817–20, and in 1826–29, their characters were those of Cullen's synocha and synochus—inflammatory, relapsing, critical.

Speaking of the epidemics of 1817–20, he dwells on the hard, incompressible pulse, the ardent heat of the skin, the florid hue of the venous blood and the impetus with which it escaped almost *per saltum* from the vein, the vivid glow of the surface, and the distracting pain and pulsation of the heart and chest.

Similar phenomena occurred in the epidemic of 1826–29, and in both bleeding was largely practised with the happiest effects; so that in the former epidemic the mortality, which was at first one in twenty-two, fell to one in thirty—a result which disposes of the charge of malpraxis against the profession.

But in 1834 Sir Robert found that probably for two years previously a change had been going on; synocha had disappeared; synochus had lost the vehement reaction of its early stages; typical typhus was much more common; and what did not come up to Cullen's mark of fully formed typhus was what physicians would now commonly call mild typhus, with more of introductory reaction than we observe at present, but with less than in the two epidemics of 1817–20 and 1826–29.

"In epidemic fevers," says this distinguished physician, "a change may take place in the constitutional part of the fever; and this change has been exemplified in Edinburgh during the last forty years, by a transition from the sthenic or phlogistic character in the first twelve years to the asthenic or adynamic character in the twelve years which have just elapsed."

And he adds these most remarkable words:—

"If this change be admitted to have been proved, there is an end to all difficulty in accounting for the abandonment of blood-letting in the treatment of our fevers. In point of fact, I am able to state very positively that the abandonment of bleeding in fever was suggested by the observation of a change in the constitution of fever, and in the effects of the remedy on it, and not by any other circumstance, whether extraneous or intrinsic. It is impossible to ascribe such change of practice, as Dr. Bennett has done in the instance of pneumonia, to an improved knowledge of disease. We have improved our knowledge of fever so far as to have been for some time well acquainted with the form of enteric typhus (dothinenteritis), which was unknown, or not recognized, at the commencement of our epi-

demics. But this is a rare form of fever in Edinburgh, scarcely belonging to its epidemics at all. And as to our only undoubted epidemic fevers, typhus and synocha with their intermediates, we cannot be truthfully said to be the better acquainted with them in 1857 than we were in 1830.

"I have given, I hope, a sounder explanation, less flattering perhaps to the rising generation of physicians, but surely more honourable to physic itself, more creditable to medical observation and experience, more consonant with the advanced state of medical philosophy. My own convictions on the subject are so strong that I regard nothing as more likely than that in the course of time some now present will see the day when a reflux in the constitution of fever will present it again in its sthenic dress, and again make the lancet its remedy. And in that event it is not impossible that, while we are now charged with giving up blood-letting, because it was discovered to have never been the proper method of cure, we shall hereafter be assailed by some new enthusiast in blood-letting, who, in imitation of Dr. Welsh, and regardless of the fate of his doctrines, will accuse us, with equal justice, of having our late fevers asthenic and typhous by blindly withholding their fittest remedy."

Since the delivery of my address on "Change of Type in Disease" before the British Medical Association at Leamington, in the year 1865, I have received numerous letters on the subject from many leading physicians in England and Ireland. The testimony of these gentlemen has been of the strongest character in favour of the occurrence of an asthenic type of local inflammatory disease within the last forty years.

That the type of both local and essential disease varies within certain limits of time we must believe. That a more asthenic form of disease has for nearly half a century prevailed in these countries is, I hold, an incontrovertible truth, and a time may come when those whose experience is of a later date will speak of the practice of their predecessors with greater modesty and more reverence.

I may now add the results of my own experience in this matter. I remember the period when the change of type took place in Ireland, and am under the impression that it was observed earlier in this country than in Scotland, or at least in England. The great epidemic of fever in 1827 was a remarkable one from its compound nature, and seemed to be made up of synocha, synochus, and enteric typhus. But nothing was more remarkable than the vehemence of the inflammatory reaction in many cases; and it is a curious fact that this was sometimes seen at its highest pitch in the relapses, when it was often

far more violent and dangerous than in the first attack. Local bleeding was largely employed. In many cases venesection or arteriotomy had excellent results; so that, although there were abundance of cases with prostration, and others marked by the typhoid condition, the old sthenic character had not disappeared. The amount of wine used at that time in hospitals was quite insignificant as compared with its consumption in more recent times.

Between 1822 and 1828 the sthenic character of essential and local disease existed, and the lancet was freely used—often, as I believe and have elsewhere stated, with too great freedom. But I well remember observing the frequent occurrence of the phenomena mentioned by Sir Robert Christison—the vehement action of the heart, the incompressibility of the pulse, the vivid redness of the venous blood, and the force with which it spouted, almost *per saltum*, from the orifice in the vein. I have myself taken as much as sixty ounces in a case of active cerebral congestion, with hemiplegia, before any impression was made on the arterial excitement; in this case complete success followed. In rheumatic fever, too, we found the use of the lancet in the early stage of the disease to be productive of great relief. Venesection was seldom employed more than once, but its effect was to shorten the duration of the disease, to lower the fever, to lessen the liability to the so-called metastases, and to render the whole case much more amenable to treatment.

But I have not bled in rheumatic fever for the last thirty years, for the whole character of the disease has changed. We have not had for many years the bounding pulse, the exaggerated heat and sweating, or the same liability to acute inflammations of the internal parts. The action of the heart is often feeble, and the tonic and supporting plan seems called for from an early period. Another point worthy of remark is, that cardiac and aortic murmurs of the anæmic kind have for many years been much more frequently observed, both during the attack and in the convalescence, and these demand the use of iron for their removal.

In judging of this question the evidence of those who have been intimate with acute diseases in this country during the period of 1820 to 1830 or 1835 must be attended to on this point. As already stated, I have received a vast number of communications from experienced and practical men, who had no theory to support, all telling the same tale, all testifying to the fact that a change in the vital character of acute disease was observed. This was particularly seen in rheumatic fever, which gradually lost its quality of high reaction, as shown by the great heat of the skin, the bounding and resisting pulse, the vigour

of the heart's action; the frequency and severity of metastasis, not only as regards external but internal structures whose functions were violently disturbed. Cases, too, of visceral inflammation, independent of rheumatic complication, and marked by high reaction, pain, and great functional disturbance, were common. This was well seen in the cases of pleuropneumonia, in pericarditis, and in peritonitis, in all of which violence of symptoms, high reaction, and great pain and rapidity of morbid processes were the rule. Now, since the asthenic character of acute disease has set in, all this has changed. The violent acute and commonly suppurative pneumonia is rarely met with. We frequently meet cases of pericarditis in which, but for the physical signs, the disease could not be recognized, or its being overlooked would be excusable—you have seen many cases with little or no oppressive distress or throbing of the heart. And as to acute peritonitis, formerly so well known, there has rarely been seen in any of our wards a case of it that did not result from the perforation of the intestine in enteric fevers.

It is needless to add examples; let us rather turn to another kind of evidence. Hitherto the change of type has been recognized and determined less by anatomical observation than by the observation of symptoms, and still more by the application of therapeutical tests. Remedial measures of a certain kind were found to fail and to be hurtful, where they were formerly safe and successful; and, conversely, the use of a supporting system of tonics, and the free employment of stimulants, were found necessary and safe where formerly they did mischief.

That morbid anatomy adds its testimony to the truth of the doctrine of the change of type in disease will, I believe, appear from considerations based on observed facts. Thus, after or about the time when an asthenic tendency was first noticed in Ireland, a change was detected in the condition of the blood drawn by venesection. The buffed and cupped character became very rare, and I well remember expressing my surprise at the absence of the fibrinous coat in cases in which we had fully expected its presence. In place of the small, dense, almost spherical crassamentum, we had a soft clot, with little if any separation of serum; while, instead of the buffy coat with inverted edges, we had a thin sizy pellicle. This circumstance was one of those which led us to be more and more cautious in the use of the lancet.

Again, the specimens of acute disease have had for many years a character very different from that commonly met with in Dublin between 1820 and 1830. As a general rule, these specimens all

M. Parisot, the head physician of the establishment, gave him particulars of the case of a child who, twelve days after the hooping-cough had declared itself, was placed in a sulphur vapour bath and completely cured. Wherever M. Parisot sees that the cough is taking on a convulsive character, he has recourse to the sulphur vapour baths, and almost invariably overcomes this distressing symptom. Passing from science to art, M. Legrand dilates on the beauty of the old earthenware vessels used in the pharmacy of this hospital. They were, it appears, given to the institution by King Stanislaus, and are in the best style of French pottery, that of Louis XIV., the most beautiful and characteristic of all the peculiarly French styles. M. Legrand adds that the pharmacy is kept with the most perfect neatness and order, and the precious jars are valued as they deserve to be.—*London Med. Record*, Oct. 18, 1874.

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Cubebs in Diphtheria.—Dr. Reignier, of Surgères, reports in *La France Médicale* (May 16), a case of nasal diphtheria in a boy, aged 10 years, which he, two years previously, had successfully treated by the administration of a gramme of cubebs morning and evening; at the same time supporting the patient's strength, which was at the lowest ebb. There was an enormous quantity of albumen in the urine; and it was with the object of checking this drain from the system, that Dr. Reignier, calling to mind the action of cubebs on the kidneys, prescribed that drug, with a success which he was far from hoping for. He has since treated seven other cases of nasal diphtheria in a similar manner, and with a like success; and, therefore, thinks that he may now, without rashness, recommend its adoption. It would be prudent, he adds, to give the cubebs in these severe cases before the albumen made its appearance in the urine.—*Irish Hosp. Gaz.*, Nov. 18, 1874.

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Tetanus successfully treated.—Dr. J. B. Carruthers reports (*Lancet*, Sept. 26th, 1874) a case of traumatic tetanus in a boy, æt. 14, successfully treated by chloral hydrate and bromide of potassium. At first the case was most disheartening, but by steady perseverance in the treatment the convulsions gradually weakened and finally ceased. The amelioration of the symptoms on the third day after the chloral hydrate and bromide of potassium were given was most marked.

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Lotion for Phagedenic Ulcers.—Prof. Profeta states (*Lo Sperimentale*) that the application of pepsin, grm. xv; lactic acid, grm. ij; water, grm. c; has succeeded completely in curing many phagedenic ulcers, when other reputed remedies had entirely failed.

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Fatal Hemorrhage from the Ear.—At a recent meeting of the Buda-Pesth Surgical Society, Dr. Böke related (*Centralblatt für Chirurgie*, Sept. 19, 1874) the particulars of two fatal cases of hemorrhage from the ears, and took occasion to oppose the tying of the carotid artery, when in such cases the hemorrhage is the result of caries.

The first case was that of a sailor, 22 years old, who died after experiencing for fourteen days severe hemorrhage, accompanied by vomiting. The autopsy revealed extensive necrosis with loss of substance in the *tegumentum tympani*, the anterior and posterior wall of the *tympanum* and also of the *canalis facialis*. The source of the hemorrhage was found to be the *bulbus venæ jugularis*.

In the second instance, that of a sailor, aged 43, there was found, at the autopsy, caries of the *tegumentum tympani* and a communication between the *sinus petrosus inferior* and the cavity of the tympanum. —*Boston Med. and Surg. Journ.*, Oct. 8, 1874.

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Insufficiency of the Valves of the Femoral Vein.—Prof. Friedreich has lately pointed out that the above condition is a serious one, inasmuch as it favours the development of varix and œdema of the legs, and may give rise to profuse venous hemorrhage in operations on the upper part of the thigh. The valvular insufficiency, which is not uncommon, may be detected by rotating the thigh outwards, and laying the finger lightly on the upper part of

the vein, immediately below Poupart's ligament. If the upper valves are insufficient, there may then be felt a strong whiz when the patient gives a short cough or otherwise rapidly contracts the abdominal muscles. Under the same circumstances the ear, instead of the finger, may detect a deep bruit.—*Med. Times and Gaz.*, Dec. 5, 1874.

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Interesting Case of Calculi in the Bladder; Removal by Washing Out and by Lithotrity.—Mr JOHN FOSTER records (*Lancet*, Oct 10, 1874) the following case:—

A gentleman, aged seventy-six, consulted me, in absence of Sir Henry Thompson, on the 16th of September. He had enjoyed perfect health, and had had no disturbance of his urinary organs until six months ago, when he passed several uric-acid calculi, varying in size from a pin's head to a very small pea; but he had passed none for the last four months. He suffered no pain, slight irritation only, at the end of his penis; never passed blood, but had considerable frequency in making water. He had a narrow stricture at the orifice of the urethra, which I divided, and passed a No. 8 condée catheter to ascertain if he emptied the bladder. With the urine came a large number of very small calculi, and, by injecting some warm water, I removed, I should think, about three or four hundred. On the 17th I used a larger catheter, and washed out as many more, some of the size of a small pea.

Feeling sure, from his symptoms, that some more were still remaining in his bladder, he was put under the influence of gas and ether, on Sept. 20th, by Mr. Bailey, and I crushed several calculi, one the size of a bean. Again, on the 22d, under the same anæsthetic, I crushed two or three more, and removed all calculous matter with the lithotrite and Clover's apparatus. On the 25th the irritation and frequency of micturition had greatly diminished, and he went home, having learned to pass his catheter twice a day to empty the bladder of the residual urine.

The case is interesting from the fact that such a large collection of calculi (over a thousand) remained in the bladder, unsuspected, and causing so little inconvenience; and the reason of their not being easily expelled was the inability of the patient to empty his bladder by his own efforts.

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Popliteal Aneurism cured by Digital Compression.—Dr. JOHN REDDY reports (*Canada Med. and Surg. Journ*, Dec. 1874) a case of popliteal aneurism in a healthy woman aged 59, with a large popliteal aneurism. Two of Caste's compressors were applied, no benefit resulting, and the pain being so severe that after seven weeks' use they were laid aside. Afterwards digital compression was resorted to, and after twelve hours neither pulsation nor bruit was distinguishable After this, a gradual diminution of the tumour took place, and at the date of the last report, all pain and tenderness had ceased, though the patient was still unable to walk or press her heel firmly on the ground.

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Heteroplastic Transplantations.—At a recent meeting of the *Academie des Sciences*, M. BENJAMIN AUGER gave an account of his trials with "heteroplastic graftings." Having occasion to provide a covering for a very large burn, and not finding it practicable to obtain a sufficient number of epidermic graftings on the patient himself, he derived these from the amputated limbs of other subjects, and succeeded in effecting cicatrization in this manner. This induced him to resort to dermo-epidermic grafts obtained in the same way, and which were employed with the same success. Believing, therefore, that he should meet with a similar result in transplanting portions of the entire substance of the skin, and even of the subjacent cellular tissue, he took grafts of one or two centimetres in circumference, consisting of the entire thickness of the skin, from the palmar surface of a finger amputated two minutes before, and bound them by diachylon on to an ulcer of the leg. Three days after they were found intimately united and manifestly vascular. In the same way grafts of the entire thickness of the skin were taken from a lumbar tumour, and finally the preputial mucous

membrane taken from a young subject just operated upon for circumcision has been grafted. In all these cases the tissues transplanted still preserved their temperature, and were conveyed as speedily as possible.

Observation has shown that in four, five, or six days the epidermis covering the grafts becomes detached, leaving the surface denuded so as to resemble the integument to which a blister has been recently applied. The cicatrix, nevertheless, is rapidly formed over the whole surface of the graft and its periphery. This would seem to show that epidermic grafts only succeed on condition that a lamella of the dermis is united to the epidermis. As yet, M. Auger has only employed his method to obtain the cicatrization of a large burn, but he anticipates numerous applications of it will arise. In choosing grafts we should, of course, avoid taking them from the vicinity of malignant disease, or when the subject supplying them suffers from contagious disease.

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Galvano-cautery for removal of Bean from the Ear.—A child, æt. 7, had a bean fixed at the far end of the meatus auditorius externus. All the usual means of extraction had been tried in vain, and the foreign body still remained solidly fixed between the tympanum and the lower wall of the passage, when M. Voltolini thought of trying the galvanic cautery. At a single séance, the foreign body was burnt at twenty different points, by the use of a small pointed cautery. In a day or two, the remains of the bean, reduced to one-half its former size, presented itself at the orifice of the meatus, from which it was easily removed.—*Edin. Med. Journ.*, Nov. 1874, from *Journ. de Méd. et de Chirurg. Prat.*, July, 1874.

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Keith's Ovariotomy Statistics.—At a late meeting of the Medico-Chirurgical Society of Edinburgh, Dr. Thomas Keith (*British Med. Journ.*, Dec. 12, 1874) mentioned that he had performed ovariotomy 196 times, and that during the last three years his mortality has been only ten per cent.

Death from Idiopathic Rupture of Spleen.—Mr. Edward Atkinson, Surgeon to the Leeds General Infirmary, reports (*Brit. Med. Journ.*, Sept. 26, 1874) the following very rare case:—

A lady, aged 35, of middle height, stout, married only five months, highly hysterical, had never been quite well since her marriage. She had menstruated regularly, but had irritable stomach, with frequent attacks of vomiting, and sometimes suffered considerable pain in the gastric region. She had been under the treatment of my friend Dr. Young for four or five weeks for these symptoms, which had been alleviated, and she was considered to be convalescent. *She never had enteric fever.* On the evening of August 5th, 1873, she was suddenly taken ill after eating some herring, and was attended by Dr. Frobisher. Violent retching continued from 9 P. M. till noon next day, and was followed, after the first hour or two of sickness, by acute pain in the left side, which rapidly spread over the whole abdomen. At noon, she sank into a state of collapse. When I saw her at 4 P. M. with Dr. Frobisher, she presented the appearance of a person in the last stage of Asiatic cholera—cold, restless, pallid, blue lips, pulseless at the wrist, whispering voice, clammy sweat—but no diarrhœa. Was it gall-stone, intussusception, internal strangulation, or rupture of an aneurism? One thing was evident—that death was inevitable. She died at 5 o'clock, twenty hours from the commencement. With great difficulty, a necropsy was obtained, and was made two days after death by myself in conjunction with Drs. Young and Frobisher. The body was very fat. There were two inches of fat in the parietes, besides a thick subperitoneal layer. The abdominal viscera were bloodless. A large clot, several pounds in weight, overlapped the lower edge of the great omentum and filled the left side of the abdomen; besides which, there was a large quantity of dark fluid blood. There were no adhesions, or signs of effused lymph, or of peritoneal inflammation anywhere. On tracing up the blood to its source, it was found to issue

from a rent in the gastro-splenic omentum, which was distended into a large pouch. On enlarging the opening, more clot and fluid blood escaped, and then the spleen was seen, shrunken, pale, flabby, and its lower portion disintegrated and in a state of muddy pulp. The stomach and duodenum contained no ulcer or other unhealthy appearance. The liver was pale, flabby and very friable. The kidneys were healthy. The gall-bladder and duct were devoid of calculi. The thorax was not opened. The only similar case of which I ever heard, or of which I have been able to find any record, is one which my friend Dr. Deville of Harrogate communicated to the Branch meeting at Scarborough last year.

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Physiology of Lactation.—At a recent meeting of the Association Française pour l'Avancement des Sciences, M. Sinety read a paper on some points in the physiology of lactation. What part, he asks, does the mammary gland play in the formation of the different constituents of milk? From the time that milk appears in the mammary gland the liver presents a fatty condition, which is so far different from any pathological condition, that the fat appears in the centre of the lobules. Pregnancy, *per se*, does not produce this condition of steatogeny. M. Sinety has been led to believe, from his experiments on rabbits and guinea-pigs, that the liver fabricates, in part at least, the fatty matters of the milk. But whence comes the sugar? The glycosuria of nursing women, originally stated to occur by Blot in 1856, has been denied by others. The truth is that sugar always appears in the urine when suckling is suddenly discontinued. The removal of the mammary glands in female guinea-pigs was followed by the appearance of sugar in the urine, though it soon disappeared. M. Sinety thinks that the mammary gland directly produces the sugar of the milk.—*Lancet*, Sept. 26, 1874.

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Undiscovered Œsophageal Obstruction.—M. Duplay mentioned, at a late meeting of the Surgical Society of Paris, the case of a man of sixty-two, who, on admission into the hospital, stated that whilst partaking of soup with a spoon he had swallowed a bone. He had some pain about the sternum, but could drink and swallow bread. Different tubes introduced passed easily into the stomach, though stopped a little about the sternal region. A few days after admission the patient could no longer swallow solids; he was fed by tubes, but soon sank with symptoms of broncho-pneumonia. On a post-mortem examination the bone was found about two inches below the beginning of the œsophagus; it was triangular in shape, one of the apices being so sharp that it had perforated the œsophagus. It is difficult to explain how this foreign body allowed food and tubes of the diameter of the little finger to pass into the stomach. —*Lancet*, Dec. 12, 1874.

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Two Victims of Hydrophobia.—T. W. Lorinser denies the specific poisonous action of the saliva of a mad dog, and referring chiefly to the death of Professor Hermann, of Prague, the history of whose illness and *post-mortem* examination is given, and to observations on a similar case of a girl twenty years old, declares it as his opinion that only a long-nourished and constantly-increasing fear of the outbreak of hydrophobia causes the ultimate disease, and that hydrophobia will cease to exist when it ceases to be believed in. *Edin. Med. Journ.*, Nov. 1874, from *Centralblatt*, No. 29, 1874, and *Wien. Med. Wochenschr.*, Nos. 14 and 15, 1874.

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The Preservation of Meat.—Prof. Kolbe has discovered that fresh meat rubbed with salicylic acid may be exposed to the air for a week without spoiling (*Pharmaceutical Journal*, Nov. 28). A large quantity of beef and mutton, prepared with salicylic acid, was packed closely together in a cask, and at the end of a month was examined as to its usefulnesss in the kitchen, and as to flavour. The greater part of the acid was removed by washing, after which the not unpleasant weak sweetish taste of the remainder could be detected only with difficulty. This favourable result has suggested to Professor Kolbe that meat may by this means be

imported cheaply, and in good condition, from South America.—*Med. Times and Gaz.*, Dec. 5, 1874.

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The Preservative Effect of Chloroform upon Vegetable Infusions. — Mr. J. C. Barnes, F.C.S., published in the *Pharmaceutical Journal* for December a paper on this subject. It is stated that not only is alcoholic fermentation prevented by chloroform, but when added in sufficient quantity to fresh milk, lactic fermentation is also arrested. It would be convenient, perhaps, to preserve milk in this manner, boiling the liquid before use, in order to drive off the chloroform. It is considered probable that solutions of acetate and citrate of ammonia, citric acid, lemon juice, and many other substances may be preserved by chloroform. The idea was suggested to Mr. Barnes by Dr. G. Pritchard, Greenstreet, Kent.—*Lancet*, Dec. 12, 1874.

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Chloralum.—Prof. Fleck, of Dresden, has been investigatiug the quality of chloralum, of which, as a disinfectant, so much has been heard. He states that it is made as follows: A calcareous and slightly ferruginous clay is treated with crude fuming hydrochloric acid, and dissolved as much as possible. The concentrated liquid, after letting the undissolved particles settle, is decanted, bottled, and sold as "chloralum." It has its name from the chloride of aluminium it contains. The undissolved residue, just as it is left, is dried in leaden pans, and this furnishes the "chloralum powder." In the above chloralum liquid, wool or wadding is immersed, saturated with it, pressed and dried, and this gives the "chloralum wool and wadding." The impurities of arsenic, lead, and copper are caused by the impurity of the solvent, hydrochloric acid, or of the apparatus in which the dissolving of the clay takes place. The real value of the contents of the chloralum bottles cannot be set above one-seventh of the price at which they are sold. The value of the chloralum powder sold in tin boxes cannot be fixed higher than one-fifth of the selling price, it being simply a dried waste product. A solution of 10 grs. of alum in 1 pound of well-water replaces in all cases the above preparations, in which all constituents, except the chloride of aluminium, are impurities, viz., poison. To fix the value of chloralum as a disinfectant, equal volumes of sewer liquid were treated with chloride of lime, alum, sulphate of iron, chloralum, caustic lime, and chloride of maguesium, and the clear supernatant liquid tested with alkaline silver solution for its percentage of putrefying matter. The useful effect of these disinfectants and clarifiers is represented by the following figures :—

Chloride of lime disinfects	100.0	p.c.	of	putrefying matter.
Caustic lime . . .	"	84.6	"	"
Alum	"	80.4	"	"
Sulphate of iron . .	"	76.7	"	"
Chloralum . . .	"	74.0	"	"
Chloride of maguesium	"	57.1	"	"

The disinfecting and clarifying effect of chloralum is, as we see, inferior to those of alum or sulphate of alumina and of green vitriol, both of which are considerably cheaper than the chloralum.—*Sanitary Record*, Nov. 21, 1874.

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Female Labour in Manufactories.—At the recent meeting of the German Public Health Association Dr. Hirt, of Breslau, preseuted a report on Female Labour in Manufactories. While in general numerous causes of disease existed in the various kinds of industrial occupation, this was the case in a much higher degree as regards women. While the healthy woman required for herself a greater amount of protection than the man, this protection was in a special manner required for pregnant females employed in factories. For the protection of the latter, the speaker demanded geueral legal regulations. Long-continued exhausting labour, machine-sewing, etc., were kuown to produce abortion; and this was also caused by working in certain poisonous materials, viz., lead, phosphorus, mercury, anilin, arsenic, and copper. Of 140 pregnant women working in lead, 82 had abortion, or 58 per cent. Statistics showed similar results with regard to mercury, arsenic, and anilin. It was further established that the action of these poisonous matters was communi-

cated from the organism of the mother to that of the child. In 1000 cases of female lead-workers, 785 had still-births; and in addition, 40 per cent. of the children died within the first, and 30 per cent. within the second year. The annual mortality among children of females employed in coating mirrors was 65 per cent. In normal conditions, the mortality of children in the first year was only 20 per cent., and even in large towns it was not higher than 20 or 25 per cent. Again, the female labourers referred to were much too imprudent after their confinement, and were in too great haste to return to work. Hitherto, unfortunately, legislation had afforded no protection, either in England, France, Austria, Germany, or Belgium. Switzerland alone had made a beginning and must be an enlightening example to Germany. The humanity of the house of Dollfuss, in Mülhausen, was also worthy of mention, where full leave of absence was allowed to all the pregnant females for three weeks before and three weeks after confinement. The reporter summed up as follows: 1. Pregnant women should be interdicted during the second half of pregnancy from employment in all branches of industry where poisonous materials are used; as, for example, the manufacture of coloured papers and artificial flowers, the coating of mirrors, the manufacture of caoutchouc articles, etc.; and they should also be excluded from factories where injurious gases abound. 2. No puerperal woman should be employed in any manufactory before the ninth day after her confinement. 3. No puerperal woman should be employed in a factory where poisonous materials are used before the forty-second day after her delivery.

These conclusions were received with lively approbation. The Association, however, abstained from passing a special resolution, but left it to the individual members to work out the ideas in their respective districts.—*The Sanitary Record*, Dec. 12, 1874, from *Allgemeine Med. Central-Zeitung*, Sept. 1874.

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The Liernur System of Drainage.—Till last week, when the letter of the late Mayor of Winchester appeared in *The Times* stating the sanitary authorities had under consideration Captain Liernur's scheme for removing the sewage of the town by his pneumatic system, few besides those interested in sanitary matters were aware of its existence, and even these knew very little definite about it. The principle is briefly this: Captain Liernur separates the storm and waste water from the refuse water; these are carried off by a separate system of drains. Both, however, are kept separate from the fecal and urinary excreta, which are removed from the houses by means of atmospheric pressure instead of water. To effect this each closet is connected with an iron pipe, which enters an iron main-tube in the street, which in turn enters a street reservoir, but is shut off from it when not in action by means of a stopcock; each street reservoir is in connection with a tank, situated under the house containing the air-pump engine, by which a vacuum is constantly maintained. At certain hours men visit the main pipes, open the stopcocks, and at once the excretory matters are sucked out into the reservoir, and thence into the tanks. Here, owing to its small bulk, it can be easily dealt with, either by immediate distribution to the soil as manure, or by conversion into *poudrette* or human guano. Theoretically the scheme is perfect, and its manifest advantages are—(1) By the constant vacuum maintained in the system, no sewer gas can find access to the houses; (2) it does away with the enormous quantity of water required for flushing the sewers; (3) as the sewage is not diluted with a vast amount of water, no expensive arrangements are required to utilize it. The scheme seems particularly suited for those places which have not a natural outfall for their sewage, or have not a sufficient water-supply to flush their drains, or, as in the case of Cambridge, where owing to the dead level little or no fall can be obtained, and where the sewage has a tendency, in consequence, to deposit in the sewers. The method of carrying off the refuse and surface water is also a chief feature in the scheme. The former is removed by means of impervious

vitrified earthenware pipes, so that filtration or percolation is impossible. The surface water is carried off by means of small agricultural drain-pipes laid at a higher level than those which carry off the refuse water; they discharge into them, however, at certain intervals. The advantage claimed by Captain Liernur for this arrangement is that the water in the subsoil is kept at a permanent height above the sewer, and he thinks that so long as the subsoil water outside the sewer is higher than the sewer within, all danger of pollution is avoided. The scheme has been tried for three years at Amsterdam in a portion of the town, and other Dutch towns are adopting it. We are told that Dr. Stronsberg, the contractor, and Count Stuckenberg, have just signed a contract for laying down the Liernur system of sewerage in St. Petersburg, at a cost amounting to nearly £4,000,000. Captain Liernur believes his system will be a financial success, and that there will be a return on the capital employed from the sale of the *poudrette*. Without being so sanguine, we would be more than content with any scheme that would efficiently get rid of our excreta and pay its working expenses. These are the two points in which all the schemes hitherto tried have failed.—*Lancet*, Nov. 28, 1874.

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Pollution of a River.—The proprietors of a paper mill at a village near Sheffield were last week pretty severely fined, at the instigation of the sanitary authorities of the district, for the non-abatement of a nuisance, which consisted in the discharge of foul water from the mill into a stream running through the village. Fever had broken out on both banks of the stream, and in three months 100 cases of typhoid, of which twenty-four proved fatal, had been reported. For such disgraceful instances of river pollution (and persisted in, be it remembered, after repeated warnings) a money fine appears to be quite inadequate. We would gladly see terms of imprisonment awarded to persons, no matter what their position, who obstinately continue a dangerous nuisance after having been warned of the terrible consequences likely to follow their non-compliance with the provisions of the law.—*Lancet*, Nov. 4, 1874.

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Carbolic Acid Test for Albumen.—Dr. A. Ernest Sansom records (*Med. Times and Gaz.*, Oct. 10, 1874) that in his opinion the carbolic acid test for albumen is entirely unreliable. He says it will often fail to detect albumen in urine when the latter is present in considerable proportion; it will produce a deceptive coagulum when there is no albumen at all.

"Long before M. Méhu promulgated his test (*Journal de Pharmacie et de Chimie*, February, 1869), I had tried with great hope carbolic acid as a practical test for the presence of albumen in urine. I soon found, however, that its employment was beset with fallacies. I have described these in my book on carbolic acid ("Antiseptic System," p. 12). In urine of high specific gravity a dense precipitate is produced by the aceto-carbolic solution whether albumen be present or no. In saline solutions the same thing occurs. I do not believe it possible to discriminate such an appearance from an albuminous coagulum. I have in a large number of cases tried the aceto-carbolic solution side by side with the well-known tests for albumen in suspected albuminuria. The indications have been utterly contradictory, and I cannot but advise that the carbolic acid (so-called) test be discarded.

"Moreover, I would refer to an entirely independent opinion. In the *American Journal of the Medical Sciences* for July, 1872, Dr. Bill gives an able *résumé* of an extended investigation of carbolic acid, its properties, uses, etc. He says—"It is pretty generally accepted that carbol" (the term he uses for carbolic acid) "precipitates albumen, and this supposed property of carbol has even been proposed for employment as a test for albumen and the like, in place of nitric acid. Our results are opposed to this view." He considers it established that carbolic acid in the cold forms no compound with albumen, and when carbolic acid does precipitate albumen it is by abstracting its water."

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CLINICS.

CLINICAL LECTURES.

Lecture on Pyæmia. B. W. Moxon, M.D., Physician to Guy's Hospital.

The cause of death after great wounds or extensive sores or gangrene was formerly little inquired into; it was ascribed to shock, fever, or suchlike vague considerations. But when post-mortem examinations were made, it was found that internal inflammations are present under these circumstances, and often are evidently sufficient to produce a fatal result. These inflammations, however, are of a peculiar kind. Their most marked feature is a tendency to the rapid formation of pus; hence it was natural to think that the pus had been taken up from the wound or sore, and lodged in the internal part where it was found; and thus the earliest and simplest notion of pyæmia arose. But it soon became evident that the pus in the internal parts is formed by inflammation, and is not simply conveyed there; for the inflammatory process is evident around and in the puriform collection.

The idea and word "metastasis," or transference of a diseased process to a new seat, here lay ready for employment; and, indeed, this vague term still serves a useful purpose in expressing the shifting of a diseased action from one place to another. Still such vague ideas, if accepted as sufficient, repress inquiry; and we must, here as elsewhere, take the facts of the disease.

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and the results of experimental inquiries which may throw light on its actual nature. Such, indeed, has been the course pursued; and now we are in this position, that we have two distinct departments of facts bearing on the question of pyæmia: the facts from human morbid anatomy, and those from experiments on animals.

To take the latter first. Many distinguished observers have studied the effects of injecting putrid matter into the veins or cellular tissues of dogs and other creatures; the result is, the literature of "septicæmia." But the bearing of this on our knowledge of pyæmia is not as yet very direct; for by such experiments we do not generally produce those suppurations that are characteristic of pyæmia as met with in the post-mortem room. The animals experimented on either recover, with or without grave symptoms; or die, generally with diarrhœa and collapse, when the alimentary canal shows, on inspection after death, signs of inflammation, and there are congestions, ecchymoses, or inflammations in the lungs and other organs.

It has been said by Dr. Burdon Sanderson that the poison of pyæmia increases in intensity of action in animals successively inoculated with it one from the other; so that an animal inoculated with matter from the peritoneum of a former victim, just dead of disease caused by inoculation with bacteriferous septic matter, will suffer more violently and die quicker than the first victim; and a third animal inoculated from the second will die yet quicker. So that it appeared to Dr. Sanderson that the poison was capable of intensification by a sort of cultivation. These experiments were repeated by Dr. Goodhart acting with us, but we have, so far, not been able to confirm those results. A first dog died when bacteriferous fluid was injected into the peritoneum; but the second dog, when injected with fluid from the first dog's peritoneum, survived, with but slight symptoms.

I have, with Dr. Goodhart, examined the blood in many living cases of pyæmia, grave erysipelas, etc., without finding any bacteria in it. In making such an observation, one must remember that the blood is apt to contain minute particles, similar to the fat-molecules of chyle; and it requires a microscope of excellent defining power to observe these, and distinguish them from bacteria. Such particles you may not infrequently find in the blood of dyspeptic persons; we have found them in some excess in typhus and other fevers, but never in such quantity as to draw a marked distinction from dyspeptic cases. We have not as yet succeeded in discovering any bacteria in the blood of living pyæmic cases; they are often seen in the discharges of open wounds; we have not yet found them in matter from a hitherto unopened abscess in a living person. They quickly appear after death; and in post-mortem examination, made a few hours after the patient's decease, we have found enormous quantities of bacteria, both in the products of inflammation and to a less degree in the blood. We have seen appearances that would indicate, but not quite certainly, that the bacteria arise from disintegration of white blood-cells or of pus-cells. What part these bacteria play in the causation of septicæmia is as yet uncertain, but there is no inquiry which is of greater interest than this question, nor any that promises more valuable scientific and practical results.

In my experience of deaths from wounds, sores, etc., I have not met with any class of cases that at all closely correspond to these results of experiment by showing enteric disorder, collapse, and quasi-choleraic phenomena. So that I think it is better at present to regard the history of the experiments on animals that I have alluded to as a distinct branch of the history of septic infection, whose bearing on clinical pyæmia is as yet a problem requiring solution.

But if we take the morbid appearances in the human body after death from grave wounds and sores, these form a very definite series, one to which the term "pyæmia" properly applies. I will not describe the well-known appearances of the changes in each individual organ, but will now only consider their distributions in the body, and their general features, so far as will serve to give a view of the nature of the disease. The most frequent

seat of the abscesses is in the lungs, and, as these organs receive the blood from all parts of the body, this at first favours the idea of a simple transfer of the pus or of some cause of pus in the blood from the sore to the lung. In other cases the liver is especially affected, and it is interesting to notice that in these cases the sore is generally in the alimentary canal, from which the liver draws its blood. These two facts raise a very strong presumption that the cause of the pyæmic suppuration in the lung and liver is the introduction of pus, or of a pyogenic something, into these organs from the sore. The proof of this is rendered absolute *in some cases* by our finding in the pulmonary artery, in the lung, or in the portal vein in the liver, a portion of purulent clot, while the veins of the sore contain similar clot; and in all cases the peculiar strict circumscription of the pyæmic inflammatory affection in the lung or liver corresponds suggestively with the like limitation of the distribution of individual branches of bloodvessels in the parenchyma of the organs, thus indicating a dependence of the local disease on some occurrence proper to the vessels.

In some cases no doubt can exist that the lung or liver is thrown into inflammation by the advent of a purulent embolus actually found in the vessels; and thus we have a sufficient explanation of the suppurations in those cases of pyæmia. They arise from embolism, and some would therefore speak of *embolic pyæmia*. We will consider the propriety of this presently. Others, especially in Germany, go so far as to hold that all secondary abscesses arise thus from embolism, and so make all pyæmic suppurations a department of embolism. This we shall see at least the following reasons to think is not correct.

Thus, if we observe the *position* of the pyæmic abscesses in the lung, we find that a very great part of them are limited to the lower lobe, or to the dependent part of the upper lobe, if any at all are present in it; while the ascendent part of the upper lobe is generally quite free, and when affected has far fewer than the lower one: for example, in one instance, out of many, the lower lobe contained thirty-three abscesses, the upper only three. Now if the suppuration depended only upon the casting of emboli into the pulmonary vessels, it would be more likely that the upper lobes would suffer; because, when a person is lying in bed, the breathing, and consequently the circulation in the lung, is freer in the upper part, so that thither the emboli would mostly be carried. Again, although the lung is more usually affected in pyæmia than other organs, yet sometimes you find pyæmic abscesses in the liver, etc., as after injuries to the head, when there are no abscesses in the lung. Yet any pyogenic matter must get through the lung on its way from the head to the liver; and one knows no mechanical reason why matters which have passed the pulmonary should stick in the hepatic capillaries. Again, it is yet more frequent to meet with cases, generally more chronic in their course, where the abscesses all form in the external parts of the body—that is, in the teguments, in the muscular tissue, joints, etc. Such cases may recover through the freedom of the viscera from implication. The affection of the joints is often so marked as to justify the term *rheumatoid pyæmia* as applicable to these; and when we consider that through the medium of gonorrhœal rheumatism and scarlatinal rheumatism, these cases are linked to rheumatic forms of arthritis, we find ourselves getting a long way off the embolic pathology we have just described, because *the regions attacked are not such as are exposed to embolism;* and when, again, we know that cases of pyæmia occur entirely without any kind of wound or sore—I have now seen several cases of idiopathic pyæmia where the most careful search showed the absence of any primary sore—then we find ourselves in another way deprived of the embolic theory—i. e., *because there is no showing any source for the emboli.* Lastly, we must remember that some kinds of pyæmia appear to elect proper seats of secondary suppuration, especially the pyæmia which follows suppurative periostitis, and which produces abscesses in the heart and kidneys, usually without affection of the liver; while, on the other

hand, injuries of the cranium, affecting its sinuses, often produce abscess of the liver. Again, pyæmia after typhoid tends to affect the salivary glands; that after scarlatina to affect the joints.

The above facts, taken severally, show that embolism is not the only cause of pyæmic suppuration; taken together, they go far to reduce embolism to the dimensions of one incident, which, among others, determines the localization of pyæmia on special points.

Now, nothing can be more satisfactory than the history of embolism; we can so well understand how a clot from a suppurating part may be moved on from that part, to set up the same suppuration elsewhere, that the clearness of our knowledge of the incident wants nothing. When, however, we take the rheumatoid cases, which affect chiefly the joints, or other numerous cases where without discoverable emboli the lower lobes of the lungs are chiefly affected, the explanation is not so clear and suffers by the contrast.

Many facts go to show that an impure state of the blood produces greater effects when there is stagnation of it. This is plainly indicated by the position of the abscesses in the dependent part of the lung; but the same truth is also shown by the suppuration of the veins in which thrombi have formed. This I have seen in several marked instances, especially about the prostatic plexus, or behind the valves of the great veins, or in the cranial sinuses. Here the explanation is almost as clear as that of embolism; for it is certain that, when the blood is impure, the impurity will be increased by accumulation where it ceases to circulate, since the effect of circulation is to bring the blood under the action of purifying organs. This we see is so certain that the explanation of the occurrence of suppuration in dependent and stagnant situations is almost as secure as that of embolism; and it is quite possible that the two conditions may coexist, so that *when small emboli are sown broadcast in the vessels of the lungs, those which lodge where the blood is purified freely in the upper part of the lung may not be able to excite suppuration;* while those which stay in the stagnant lower lobes already œdematous and scarce breathing at all, suffice to arouse the inflammatory process.

From these considerations it would seem that, if we may use the term "embolic pyæmia" as signifying cases where embolism is proved to occur, then we may also use the term "stagnative pyæmia" to indicate the formation of abscesses by the stagnation of poisonous matter within coagula in the affected part. The other cases I have alluded to, where the joints, kidney, or liver are especially selected, are not at present susceptible of more than such hypothetic suggestions as that the poison has a natural affinity for the parts that are inflamed. For when we neither have the embolus nor stagnation to explain the local affections, as in cases of the special disorder of the joints in rheumatoid pyæmia, the glands after fevers, the kidney and heart after suppurative periostitis, then we are obliged to assume an attraction between the part affected and the pyogenic matters in the blood. Of course this is unsatisfactory when compared with the clearness with which we can follow the embolus in its course, or anticipate the effects of the stagnation; but it is the best that we can do at present to consider the fixation of pyæmia in the joints as analogous to the fixation of smallpox in the skin and of typhoid in the intestine.

After this general survey of the indications of its morbid anatomy, we must regard pyæmia as made up of blood disease and local inflammations. We can trace several ways in which the blood disease and local inflammations are related to each other.

Firstly. The general disease may greatly predominate, so that the blood becomes unviable, and death occurs with signs of blood poisoning, revealed during life in the form of high fever and rapid fatal exhaustion, and after death by softening of the great viscera and extravasations of blood and ecchymoses within the tissues, no local suppurations being found.

Also, here we must remember that some cases of pyæmia of a most characteristic kind are found without any kind of sore whatever; we should not say this so strongly unless we had, in several instances,

searched with the utmost care through all parts of the body and found no primary disease.

But, in many cases, such pyæmia as this is traceable to the contagion of fevers —such as scarlatina and diphtheria. It is especially to the pyæmia of the puerperal state that this applies. The result of Dr. Hicks's observations showed that, in by far the majority of cases of puerperal fever, the patient has been exposed to contagion of some known fever. The existence of a proper pyæmic contagion is a matter much contested at present; and there is a further contest, among those who would admit such a contagion, upon the question whether the poison enters by the wound or by the natural surfaces of the patient. Such facts as Dr. Hicks has adduced would show that contagion, in some cases at least, is introduced as in other fevers; while the at least partial success of Lister's antiseptic plan of treating wounds would suggest that the wound itself is a principal entrance for some pyæmic contagions. It will naturally be thought that the pyæmia arising from scarlatinal poison is not properly pyæmia at all; but, in the present state of the inquiry, Dr. Hicks's evidence would show that, if it is not so, such fever is at present confounded with pyæmia; in other words, that clinical pyæmia *now* includes many cases of various forms of fever, modified by the products of a suppurating, placental, or other sore.

Secondly. In another kind of pyæmia the wound or sore produces a morbid matter, which is absorbed, and so poisons the blood. It is probable that the pyrexia of surgical fever is principally caused by the absorption of the products of the wound; so that this kind of pyæmia is allied to common surgical fever. The prevention of putrefactive changes in the discharge of the wounds averts the danger of pyæmia from this cause; and the success of the antiseptic method shows sufficiently the importance of this source of blood poisoning. It creates, however, only one kind of pyæmia, characterized by its appearing later, and running a more chronic course, with secondary suppurations.

It is believed by some that there is a pyæmic *contagion*, which acts first upon the wound, and enters the system there; but further observations are required to substantiate this hypothesis.

Thirdly. In some cases that go by the general name pyæmia, the whole affection is confined to the formation of purulent thrombi in the veins, and the conveyance of these to the lungs as emboli, where they set up secondary suppurations. Such a process is too simple and clear to need further remark.

In these three divisions, each of which is represented by some unquestionable cases, we have three *kinds* of pyæmia—kinds, that is, in the sense that they are disorders of an entirely distinct nature. But I would wish you to notice that they are not different kinds in the sense of being incompatible or neccessarily alternative; far otherwise: they may all coexist. It is quite possible that a wounded person may breathe the contagion of a fever or some other foul matter, his blood thus becoming poisoned; and that, as a consequence of this, the secretions of his wound may be more putrescible, thus producing noxious matter that is absorbed into the blood, adding another depraving element, whose tendency is to set up remotely the condition present in the wound; and again, that the low state to which nutrition is reduced may render the veins vulnerable, so that these inflame, and produce purulent thrombosis, from which embolism conveys portions to start abscesses elsewhere. And although I do not prefer the lumping together of distinct alternatives into one view, yet it is probable that, in the genesis of pyæmia, this association of distinct elements in its causation actually does occur; and that pyæmia is first started by a depraved state of the blood, and that this reacts on the wound, causing in itself and in the vessels around the putrefactive and phlebitic changes which lead to those internal suppurations which give to pyæmia its distinctive characters and its name.

The view I have given, then, may be thus summed up: Simple embolism, of purulent absorption, or general fever due to contagion, severally form distinct varieties of what is called pyæmia; but in

many cases, perhaps the majority, all these conditions exist together.—*Lancet*, Nov. 14, 1874.

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Paraplegia of Pott's Disease.—M. Charcot, in a recent clinical lecture at the Salpêtrière, remarked, that the paraplegia which often accompanies Pott's disease has been attributed to the compression of the cord by the curved spine. In the great majority of cases this is an error; in fact, all these curvatures are not accompanied by palsy, and it is not the most decided curvatures that are complicated by it; while, on the other hand, the paraplegia may exist before any curvature has taken place. Lastly, in a good many patients who have both the paraplegia and the gibbosity, the former is cured without the latter undergoing any modification. Pott himself believed in this independence of the two affections, and the recent researches of M. Charcot and his pupil, and M. Michaud, have established the correctness of his views, and established the nature of the morbid process which precedes and explains the paraplegia.

According to these researches, there takes place in Pott's disease a "caseous osteitis," an osteitis which gives rise to true abscesses which distend the vertebral ligament, and in the end rupture it. The caseous matter is then spread along the spinal canal through the medium of the conjunctive tissue which separates the vertebral ligament from the dura mater, to which the Germans have given the name of *peri-meninge*. Under the influence of the contact of this matter the dura mater becomes inflamed and thickened (*pachy-meningite caseuse*) and gives rise to a kind of growth which compresses and strangles the spinal cord. At this point the cord in its turn becomes inflamed, and a true *sclerosis* is produced, with a more or less complete destruction of the nervous tubes. Thus, Pott's disease (save in exceptional cases of compression by the gibbosity or by a scale of bone) is a myelitis. And what is of interest to note is, that the lesions of the medulla, however considerable these may be, are not irreparable, and that the destroyed nervous elements may be reproduced, if not entirely at least sufficiently to re-establish the communication between the two segments of the cord, and consequently to restore sensibility and motion to the paralyzed limbs.

Recovery from paraplegia in Pott's disease is not an exceptional occurrence, but almost the general rule. It takes place spontaneously, but may be hastened by appropriate treatment; and this treatment consists in the application of caustics opposite the gibbosity, and on each side of the spinal column, as already recommended by Pott. This is a purely empirical procedure; but its efficacy is too well established to allow of our depriving patients of the benefit it produces on this ground. M. Charcot prefers, however, the application of a small actual cautery, and a remarkable instance of its efficacy was narrated at the lecture. A Polish girl, aged fifeeen, was sent from Warsaw to be under M. Charcot's care, and on passing through Berlin was seen by Langenbeck, who was informed of M. Charcot's intention to apply the actual cautery. He strongly dissuaded her parents from allowing this to be done. Nevertheless she came to Paris, and after a second application of the cautery she was able to walk, and a fortnight afterwards she paid a second visit to Langenbeck, furnishing him with an irresistible proof that empirical treatment when accepted and wielded by men of science has its favourable side also.

It must not be supposed that this treatment succeeds as well in ordinary myelitis as in that which accompanies Pott's disease. Far from this, very serious accidents may result here from its employment. It is not very rare to find patients declaring that they have been able to walk a little until this treatment was applied, after which time they entirely ceased to be able to do so.

After the lecture M. Charcot exhibited several patients the subjects of Pott's disease, who after having for some time suffered from paralysis, had recovered the use of their limbs consequently on two or three applications of the cautery. In most of these the paraplegia had existed for eighteen months. In none of them

had there beeu congestive abscess. It sometimes happens that in the subjects of paraplegia the thigh becomes flexed on the pelvis, and the leg upon the thigh, the muscular contractions being so great that the patients are unable to walk even after the paraplegia has been cured. This inconvenience may be remedied by tenotomy.—*Med. Times and Gaz.*, Dec. 26, 1874.

HOSPITAL NOTES AND GLEANINGS.

Pericarditis with Effusion; Aspiration of Pericardium; Immediate Relief and Ultimate Recovery.—Mr. T. H. Bartlett, Surgeon to the General Hospital, Birmingham, records (*Lancet*, Dec. 19, 1874) the following very interesting case:—

Dr. Harvey, under whose care the case is, reports that the patient, Henry H., aged twenty, had beeu for fourteen days suffering from acute rheumatism, but under his care for four days only. Symptoms of pericarditis were observed on Dr. Harvey's first visit. On Nov. 13th he found the patient suffering from urgent dyspucea. There was a considerably increased area of cardiac dulness aud marked failure of pulse. At uoon on Nov. 13th Dr. Russell saw the patient with Dr. Harvey, and reports: Very feeble and rapid pulse; very rapid breathing; much dyspnœa.

Cardiac dulness extended to one inch to the right of the sternum, and to the upper border of the first rib above, though here the dulness was not complete. The limit of the dulness on the left side was uncertain, owing to effusion in the chest. On auscultation, the heart-souuds were very feeble and distant; no friction-sound. There was a faint mitral bruit. The character of the heart-sounds was not affected by posture. The impulse of the heart could not be felt, otherwise than as an ill-defined movement of the chest-wall at the region of the apex, spreading over a space the size of a crown-piece. The history of cardiac disorder at a former period suggested the possibility of pericardial adhesion.

At 8 P. M. on Nov. 13th aspiration was performed. A No. 2 aspirator needle, uuguarded, was used. This was passed in the intercostal space between the fourth and fifth ribs, two inches to the left of the central line of the sternum. The needle was used as an exhausted needle; and directly the pericardium was penetrated, as shown by fluid freely passing into the aspirator, the poiut of the needle was pressed up against the chest-wall as closely as possible. The fluid flowed freely to fourteen ounces, and then stopped flowing. It was deeply tinged with blood, and deposited speedily a scanty coagulum, and subsequently a layer of blood débris. The supernatant fluid, still somewhat tinged, has a specific gravity of 1024.

During the latter part of the operation it was noticed by all present that the needle could be felt when held by the finger to be moved with the contraction of the heart. The patient was breathiug deeply from pain or excitement, and thus prevented any cardiographic movements of the needle being *seen*. During and for half an hour after the operation the patient complaiued of severe aching pain. This ceased after a dose of fifteen minims of liq. opii. After the operation the line of dulness had receded to close upou the middle line of the sternum. The subclavian dulness had not disappeared, but was much less marked.

Nov. 14. Had passed a good night Dr. Harvey thought the dulness a little increasiug.

15*th*. Reported considerably better. Lying down with ease; no dyspnœa; marked improvement in his look; pericardial dulness hardly reaches the right edge of the sternum. The first and second intercostal spaces are clear; third rib partly so.

Dec. 3. Dr. Harvey reports that pericardial dulness has nearly disappeared, and the pleuritic fluid has been mostly absorbed. Now that the heart-sounds can be plainly heard, a loud regurgitaut mitral sound is developed.

10*th*. Dr. Harvey reports to-day that the patieut is able to sit up and walk about iu the house.

Remarks.—This case shows the ease and safety with which paracentesis pericardii can be performed, for the relief of

urgent symptoms resulting directly or indirectly from pericardial effusion. There was no difficulty in the operation itself, nor was there any subsequent symptom to mar the steady progress of the case to recovery. One point more is of especial interest—uamely, that no peculiar or unfavourable importance need be attached to a free admixture of blood with the fluid withdrawn.

—

Penetrating Wound of the Abdomen, with protrusion of three feet of small intestine; treated by ice, carbolic oil, and opium; recovery without peritonitis.—Ass. Surg. Cheytun Shah reports the following case of this. A woman, at 4 A. M., June 23, was stabbed in her belly on the right side, nearly midway between the ribs and crest of the ileum. Small intestine, nearly 3 feet, protruded through the wound, which measured 3½ inches in length. She was brought to the Peshawur City Charitable Dispensary four hours after infliction of the injury, with the intestine strangled, congested, and slightly lacerated, probably by some unskilful attempts at its replacement. The pulse was very low, and the patient in great danger. The intestine was replaced after enlarging the original wound, and ice applied to the part. Opium was administered internally at regular intervals, so that the pain was subdued, and not allowed to be felt. No indication of inflammation appeared, and on the second day carbolic oil was substituted for the ice. No untoward symptom followed, excepting slight costiveness of the bowels, which was complained of, but was not interfered with for the first four days, after which, however, they were moved.

The wound healed favourably with little suppuration, and the woman was discharged cured after about three weeks' residence in hospital.—*Indian Med. Gaz.*, Nov. 2, 1874.

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Trifacial Neuralgia of the right side; loss of taste in the right side of the tongue; loss of sight and of the sense of smell on the same side.—An interesting case of this, in a man 32 years of age admitted into the Lariboisière Hospital, is recorded (*Le Progrès Médical*, Dec. 5, 1874) by M. Floupe, Interne des Hôpitaux. On post-mortem there was found carcinoma of the dura mater which so compressed the Gasserian ganglion that it was impossible, notwithstanding the most minute dissection, to trace the branches given off from it. It was only at their point of emergence from the tumour that the ophthalmic branch and the superior and inferior maxillary nerves could be made out, and their course from this traced.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Passage of Scissors through the Abdominal Walls after being Swallowed.—Dr. H. B. Sands (*New York Med. Journ.*, Dec. 1874) exhibited at a late meeting of the New York Pathological Society a scissors five inches long, which had been swallowed by a patient in a lunatic asylum. The history of the case was given him by Dr. Edward Farrel, of Halifax, N. S., and was substantially as follows:—

The patient was afflicted with suicidal mania, and stated that she had swallowed a scissors, but, inasmuch as she was addicted to lying, she was not believed. Some time after this she complained of pain in the right side above the umbilicus, and to the right of the median line. A tumour appeared, which was poulticed; an ulcer formed, and it was then found that the points of the scissors were protruding. Sponge-tents were introduced to enlarge the opening, but, from threatened peritonitis, their use had to be abandoned. From this opening intestinal and biliary matters came away, which showed a communication with the pyloric extremity of the stomach, if not the small intestine. It was found that the scissors, as presenting, could not be removed; but by unfastening the rivet, one blade, then the other, was successfully removed. The blades were five inches long and three-fourths of an inch wide.

Twelve hours after the exit of the last blade, there was no trace of biliary or intestinal matters, and in two days the wound had completely healed up, and very shortly after she was perfectly well.

The patient also stated that she had

showed appearances indicative of a less degree of pathological energy. In pneumonia, for example, the redness, firmness, compactness, and defined boundary of the solidified lung was seldom seen; and that state of dryness and vivid scarlet injection, to which I ventured to give the name of the first stage of pneumonia, became very rare. In place of these sthenic characters, we have had a condition more approaching to splenization—the affected parts purple, not bright red; friable, not firm; moist, not dry; and the whole looking more like the result of diffuse than of energetic and concentrated inflammation.

Let us now turn to the serous membranes, and the same story is repeated. The high arterial injection, the dryness of the surface, the free production, close adhesion, and firm structure of the false membranes in acute affections of the arachnoid, pericardium, pleura, and peritoneum, which had been so familiar, ceased in a great measure to make their appearance. The exudations began to assume a more or less hemorrhagic phase, serous or sero-fibrinous effusions tinged with colouring matter replacing the old results of sthenic inflammations. The effused lymph lay like a pasty covering, rather than a close and firm investment as before; it was thin, ill-defined, and transparent in varying degree. All this tallied exactly with the change in the vital character of the disease.

It has happened to me—and I mention this in evidence that we were not mistaken with reference to cases of the sthenic character—that a few instances of disease in its old phase of high inflammatory reaction have appeared in isolated examples and at irregular intervals of time, so that we at once recognized their nature, and employed with success the old treatment in all its vigour—employed the lancet, though for many years it had been laid aside. This is important as showing that there are influences, their nature as yet unknown, which affect the vital character of local disease in an inconstant manner.

During the last few years we have not been without signs of a return to the old sthenic forms of disease. Even fifteen years ago a typical case of the old form of acute pleuropneumonia occurred in this city in the practice of the late Dr. Croker. The symptoms were those of the highest inflammatory reaction, attended by violent excitement of the heart. There was great pain and dyspnœa, a bounding pulse, a burning skin, and the rusty and tenacious sputa which for many years had not been seen in our hospital wards. This patient was treated by free venesection, copious leeching, and the exhibition of tartarated antimony; and though the lung had passed largely into consolidation, the patient made a complete and rapid recovery. Cases of a similar kind have reappeared in our wards during the last three

years, and the use of the lancet, which for a quarter of a century was unknown with us, has been on several occasions resumed, and in all such cases with the very best results. The relief has been always immediate, the resolution of the disease, as shown by physical examination, generally rapid, and the convalescence, with one exception, most satisfactory In three out of four cases the treatment consisted in one bleeding, which sometimes was followed by the application of six or eight leeches to the seat of pain. No further treatment beyond the use of the simplest palliatives was employed.

Must we not, then, agree with Sir Robert Christison that the disuse of venesection, so remarkable in these countries during a period of about forty years, is wrongly appealed to as evidence of our advance in the healing art? We are not to hold that the former practice of venesection was improper or unscientific; and while we admit that, under the influence of old custom and the anatomical theory of disease, blood-letting was abused in many cases, we must be careful not to drift into the opposite error of neglecting this remedy where it is called for, nor be guilty of the folly of holding that the physicians of the past two or three generations were bad observers and harmful practitioners. That they were men of truth is obvious to every one who understands disease, and who takes at its proper value the opinion of those who show such overweening confidence in the present so-called pathological medicine—so much based upon mere structural and chemical changes —and such neglect of some important medico-ethical considerations, as, for example, the modesty of science and the practice of a reverential spirit towards those whose works prove that they were great and truthful men.

The change of type is to be seen in the character of the symptoms and, as I have endeavoured to show, in the condition of the pathological changes. But it is to be recognized chiefly by the therapeutical test, by the behaviour of disease, whether general or local, under treatment. It may be well to repeat that the change seems to date in the present century from about the time of the first invasion of cholera, and has continued more or less ever since.

The change from sthenic to asthenic (so far as we at present know) is one more of the vital than of the structural or chemical characters of disease. The symptoms indicate, as it were, a lower tension of all the vital phenomena. The convalescence is less perfect and slower, as are also the physical signs of the resolution of local disease. The capability of bearing a reducing treatment is singularly diminished. Local lesions exhibit a greater latency. The nervous system shows

earlier signs of depression, while tonics or stimulants have been better borne.

So far as medical experience goes, we are forced to admit that the foundation for the healing art must rest on another, if not a broader, basis than that of anatomical and of chemical changes in disease. There are differences—and for want of a better name we may call them *vital*—which more intimately relate to life and health than to the anatomical or chemical changes produced by disease; and these are to be reached by the study of the *living* phenomena of the body, and of the influence of agents upon them. In truth, the fruitless attempt to base medicine upon anatomical or even chemical changes should be a lesson to those who neglect the infinitely varied mutations of vital or of nervous action.

The healing art, whether medicine or surgery, requires a wider field of study than is afforded by the dissecting-room or the laboratory. The anatomists, the histologists, and the chemists of some of the modern schools of medicine would derive a deep practical lesson from the words of Goethe,[1] who says, alluding to the insufficiency of mere anatomy to explain the mysteries of life—

> For he who seeks to learn, or gives
> Descriptions of, a thing that lives,
> Begins with "murdering, to dissect,"
> The lifeless parts he may inspect—
> The limbs are there beneath his knife,
> And all—but that which gave them life!
> Alas! the spirit hath withdrawn—
> That which informed the mass is gone.
> They scrutinize it, when it ceases
> To be itself, and count its pieces,
> Finger and feel them, and call this
> Experiment—analysis.

The study of normal anatomy being then fruitless in solving the problem of healthy life, it might be anticipated that researches as to morbid structure have thrown but a fitful and limited light on disease. In truth, the knowledge of Curative or of Preventive Medicine is not to be learned in the dissecting-room of a medical school, or in the dead-house of a hospital. Until this truth be acted on, many precious years of the best time of the student's life will be wasted. It has been attempted to base medicine on pathological anatomy, as if by its study we could solve the infinitely varied problems of disease and of therapeutics. The explanation of even death through anatomical research

[1] *Faustus.* Translated by John Anster, LL.D., of Trinity College, Dublin. 1835. P. 120.

is admissible only in exceptional cases. But it is of value—less as a key to the origin and cause of disease, than to diagnosis and the science or the many changes which attend morbid action.

LECTURE III.

FEVER DESCRIBED, but not defined, as "a condition of existence without any known or necessary local anatomical change and subject to new laws, different from those of health"—Error committed by the school of Bronssais—The "Law of Periodicity"—Danger to the fever patient due to the primary disease or to its secondary complications—Secondary affections of continued fevers more inconstant than those of the exanthemata—Classification of diseases: (1) Diseases having *an anatomical character:* (2) *neuroses*, having no known anatomical character; (3) *fevers*, subject to the law of periodicity, causing secondary affections, transmissible by contagion

FEVER is a condition more easily described than defined, and it is far easier to declare *what it is not* than *what it actually is*. During the continuance of a fever the system seems, as it were, to enter upon a new and special phase of existence. Most, if not all, functions are liable to be either interrupted or modified in a varying degree, and this possibly without the occurrence of any local anatomical change. We cannot say, I believe, what fever is in its essence, yet one thing appears certain—that it is not symptomatic of the organic changes which may be found combined with it, but is rather the generator and governor of those affections. It is, then, a condition without any known or necessary local anatomical change.

It is true that in certain forms of fever there are secondary manifestations of local disease. The pustulation of the skin in variola, the ulceration of the intestine in the so-called typhoid, and the bronchial congestion in typhus, are examples of these conditions. But looking at fever in a wide sense, we may safely hold that these secondary anatomical changes are inconstant in their amount, in their nature, and even in their seat; inconstant as to their time of appearance, their symptoms, their intensity, and their decadence, and utterly incompetent to explain the phenomena of the disease.

The great fact remains, that in epidemics of fever cases arise in which, after the general symptoms have run their course, so as to present a perfect specimen of the general disease, we may dissect the brain, spinal marrow, nerves, the pulmonary and gastro intestinal mucous membrane, the liver, every organ you please, and find no anatomical change. I believe we may say that when the fatal diseases

of the world are considered, the most destructive are those which have no recognized anatomical character. You may believe that when we speak of fever generally, secondary lesions are either wanting or are inconstant in their amount or in their nature. Upon their incompetence to explain the matter I have already remarked.

It will naturally be asked, If this be so, how did the French school commit the extraordinary error of declaring that a special anatomical change characterized every case of fever? The reason is simply this: they committed two grave errors in medical philosophy: first, in confounding the *effect* with the *cause;* and secondly, in assuming the nature of a disease over the world from its observation in one locality. Had Broussais and his followers studied fever in Ireland, Scotland, or England; had they gone abroad and examined it in the East or West Indies, or on the coast of Africa, we should have heard little of the doctrine that fever was not essential, but only symptomatic of this or that local inflammation.

Observation has long shown that fever is a state of existence under a law of *periodicity*, and this is more or less true as to the general affection and as to its local results, though this law is more often manifest in the case of the former than in that of the latter. In the disease, I believe under any of its forms, two sources of danger affect the patient. One of these is death from simple depression of all the vital powers; for the poison of fever, like that of the rattle-snake, has a directly depressing influence on the system. Another source of danger is the production of secondary diseases. A general notion of this will be best obtained by considering an ordinary case of small-pox. The patient is taken ill; he has shivering, fever, pain, vomiting, and so on; and then we observe vesicles on the surface, these vesicles filling with pus, afterwards drying, and then disappearing. No man will say that the fever was symptomatic of the eruption. It is exactly the reverse; the eruption was the result of the fever. So it is in fever; the local disease is the product of the general. There is, however, this difference between what we term continued fever, typhus, or typhoid, and the exanthemata, that while in the latter the local affection is almost always accompanied by certain characters, it is not so with respect to the secondary diseases of the fevers specified. However, between the exanthemata and typhus fever there is this point of resemblance, that the secondary affections are utterly incompetent to explain the general phenomena of the disease, while in typhus, and, I believe, in typhoid, they are doubly inconstant in their seat, their nature, and their amount—and this is true even in cases occurring during the same epidemic. But they are of very great importance.

It may be asked, Are they inflammations? I believe they are not inflammations, or, if they be such, they have a specific character. Certainly in their first stages they are not inflammatory; but in many instances, after they have existed in their non-inflammatory state, there comes on a reactive irritation, so that we may then have a mixed condition of essential and symptomatic fever. In my opinion this is the history of the ulcerations of the intestine so common in typhoid fever, for in the beginning—as in variola—we often find tumefaction and infiltration without increased vascularity. It has been proved that in many cases the morbid process goes no further, and we have retrocession of the infiltration, as we see retrocession in the eruption of smallpox.

It may be laid down that while the great majority of separate diseases catalogued in books have an anatomical character, fever is wanting in this particular with regard to the practice of medicine. We may, then, divide diseases into three great classes.

In the first class we have diseases which have an anatomical character—diseases to which we can give an anatomical expression. I need not occupy your time in giving examples of this class.

In the next place, we have a most important class of diseases which, in the present state of our knowledge, cannot be connected with any recognized anatomical character, and yet they are not fevers. I allude to the *neuroses*, or, as they are commonly termed, nervous affections; of these mania, epilepsy, lock-jaw, hydrophobia, hysteria, chorea, convulsions, are familiar instances. Here we have some most remarkable affections, which have not any known anatomical character; that is to say, we cannot yet show that they depend upon any known or ascertained anatomical change of any portion of the system, including the brain, spinal marrow, and nerves. The general character of this singular group of affections, which we call *neuroses*, shows that, whatever be the nature of the disease, the seat of it is in the nervous system; but, in the present state of anatomical knowledge, we are not justified in saying what the condition of the nervous system is to which they owe their origin; whether it is an organic change at all, or whether, supposing such a change to exist, its amount is proportionate to the violence of the symptoms. Even the results hitherto obtained by the microscope have been chiefly negative; the microscope has added but little to what was before known on those subjects. I may state here, lest you should fall into a misapprehension, that I do not wish you to believe that organic change is not found in any of these diseases. The fact is, that in many of them such does exist; but when we come to inquire what those organic changes are, we find that they are so

inconstant, so variable, frequently so similar in opposite diseases, that they have hitherto altogether failed to throw any positive light upon the subject.

This, then, is the second class of diseases; the first class having an anatomical character, the second having no anatomical character. Now we come to the third class, which comprises fevers. Fevers, as we have already said, have no anatomical character. Then, it will be asked, how do they differ from the *neuroses?* As far as we know, and strictly speaking, they differ very little; but there is this feature connected with them, that fever seems to be a special condition of life which is to exist for a certain time, and then to cease—that is to say, it is under the law of periodicity; and in this respect the phenomena of fevers differ very much from those of the pure neuroses. There are other differences, too, between fevers and neuroses. It is quite true that in a large number of fevers death may take place without any organic change that we can demonstrate anatomically; but it is true, on the other hand, that in a large number of cases there is a tendency to the development of what are to be designated the secondary lesions of the disease. Thus, if we compare these two classes, the neuroses, which are not fevers, and the fevers properly so called, we find this great difference, that among the former (as for example in hydrophobia) we do not see any tendency to the development of ulcers of the intestine; in epilepsy we do not find any tendency to the development of bronchial diseases; in mania we do not see a cutaneous eruption; in convulsions we do not find any of these various organic changes produced. This tendency, then, to generate or produce local anatomical changes secondary to the fever is another remarkable distinction between this class of affections and the pure neuroses.

There is a third very remarkable distinction between them. Fevers —using the term in a general sense, embracing, as I have already pointed out, a great number of essential diseases, as the exanthemata, typhus, plague, and yellow fever—are capable of being transmitted by contact or by vicinity; many of them—I believe almost all—are more or less contagious. So that in their subjection to the law of periodicity, in their liability to generate or produce various organic changes in different parts of the system, and in their transmissibility by contagion, we have three very important distinctive characters, although we cannot reduce them to an anatomical expression.

A great deal has been written on the subject of the proximate cause of fever, and theory upon theory has been promulgated. We are, however, at this moment as ignorant of the proximate cause of

fever as we were in the time of Cullen, or even long before him. It may be expected, however, looking at the advance of medical knowledge, that the proximate cause or causes of fever will yet be discovered; but it is a general and justifiable opinion that essential fevers result, in most cases, from the introduction of a poison into the system. The whole of the phenomena of poisoning by organic matter seem to point out a close analogy between fevers and those diseases in which a poison is introduced into the system. If a man who is in perfect health is exposed to the contagion of syphilis, in a short time his system becomes a laboratory for the formation of syphilitic poison, and he is capable of communicating the disease. As far as we can form a judgment on this question we may say that there is a very close analogy indeed between fevers and toxic diseases, whether they be fevers which are the result of contagion or not; and in this way we see a connecting link between fevers, which we call acute diseases, and diseases which are neither acute nor febrile. Thus, for example, we do not say that a patient who is labouring under syphilis, which he has caught by contagion, is in fever; but he is, nevertheless, under a condition which, so far as the chemico-vital state of his body is concerned, is somewhat analogous to fever; that is to say, his system has received a poison, and having received that poison, it seems to work upon it, or the poison to work on the system, and the result is that the system becomes a generator of the same poison that it has received.

Now let us go a little further into this subject. I might give various other illustrations; and, indeed, I think you will find that some unexpected analogies will arise in this matter, and that you will even perceive an analogy between two such opposite diseases—such dissimilar diseases as typhus fever and pulmonary consumption. For there can hardly be a doubt that, under certain circumstances, tubercular matter introduced into the system acts like contagious matter, and that it produces a development of tubercular disease in the system thus infected. Such cases, then, may be considered as examples, if you will, of very chronic fevers, long-continued fevers, and fevers which are not, apparently at least, under the influence of the law of periodicity. I am perfectly persuaded that the more we study that class of diseases, which seems to be general rather than local, we shall find that the possibility of contagion will be more and more exhibited. I am strongly of opinion that the majority of the acute essential diseases are contagious, and I think it certain that there are other diseases also which we do not call fevers that are contagious. It is hardly possible to doubt the contagiousness of cholera; and we may go still

further, and extend the possibility of contagiousness even to such diseases as tubercular affections, and perhaps even further.

We know that scarlatina, measles, and smallpox are generally constant in their phenomena, and especially in the phenomena of their secondary changes—so much so that in them the secondary change is taken as a distinctive mark of the disease. These affections are probably, as I said before, more directly contagious; and it becomes a question whether this may arise from the circumstance that the matter of contagion in these cases is more elaborated—is perhaps more perfect according to its kind—or whether greater facilities are afforded for the conveyance of contagious matter during the desquamative processes so common in these diseases. The patient who contracts the disease is very much in the same position as a person who contracts syphilis; that is to say, that an organic poison of a special kind, whose essential characters, however, are so subtle as to escape chemical investigation, has been presented to his system and has affected him. The phenomena of typhus and typhoid are more variable; and this may arise from the want of constancy in the exciting cause. We can hardly suppose a man to get smallpox unless he has been infected by another who has had smallpox. But continued fever, or typhus fever, seems capable of being produced by a great number of causes, or, if I may so speak, by a number of imperfectly developed or imperfectly acting causes, and these, of course, may be infinitely various. We also see this very curious difference between typhus fever and the exanthemata, that while among exanthemata, so far as we know, the one exciting cause produces its own disease—the exciting cause of smallpox producing smallpox, that of scarlatina producing scarlatina, that of measles producing measles—this does not seem to be the case with respect to fever. For here is one of the most important and interesting facts connected with the entire subject, that the same exciting cause—at least as far as we can see of it—is capable of producing different kinds of fever in different persons. This great fact has not been sufficiently dwelt on by the various writers on fever on the Continent and in England, especially by that class of men whose object seems to have been to make themselves classifiers of diseases—makers of classifications—at which nature laughs.

Here is another of the great facts which show the inexpediency of drawing hard and fast lines of distinction between what are termed *typhus* fever and *typhoid* fever—that the one exciting cause will in one person produce one form of fever and in another a different form of fever. Now, we see nothing of this sort in the exanthemata. What may be the reason of this it is difficult to say; and we explain it very often by

expressing the fact in different words. It is supposed that it may be due to some variation in the state of *receptivity* of the body at the time. For in the production of the effect of the poison there are two elements: first, the nature and composition of the poison which is to act; and, next, the chemico-vital state of the body which is to be acted on. The two causes combined produce the result—fever. But if, the cause being the same, the bodies be in different states, we may expect different kinds of fevers; and this is all that we can say on the subject.

Now let me address especially the junior members of the class, or those who have hitherto worked exclusively in the surgical wards. I want them to look on the local acute diseases of fever as they would look on the pustules of smallpox, the efflorescence of erysipelas, or the eruption in measles or scarlatina. In these maladies the manifest local disease most commonly affects the skin, but is clearly secondary to a specific morbid state of the system. It runs its course and subsides spontaneously, and unless in exceptional cases the constitutional disturbance subsides with it.

Now, this seems to be the case in the secondary affections of fever, whether they be attended with anatomical change or be simply neurotic, whether the head, chest, or abdomen shows signs of disease. This latter is the product of the essential condition—that is, of the fever—and not its cause. You may meet cases where but one cavity is affected, even throughout the fever, where the three cavities are simultaneously engaged, where they are severally attacked, or where, in the whole course of the fever, there is no anatomical change.

Now, what I want you to believe, and what, when your actual experience of successive epidemics has been obtained, you cannot help believing, is, that as regards these secondary diseases, there is no constancy in their production—none as to amount, none as to intensity—and you may add, as to their combination and even their seat. Important though they may be, frequent as certain forms of them are in certain epidemics or in certain localities, they may be looked on more in the light of accidents than of constant occurrences.

They may be occasionally so extensive and so intense as that death may be probably attributed to them; while, on the other hand, their amount may be very trifling, and have no proportion to the severity of the general malady. In fact, it is impossible to predicate what course the secondary disease may take from spontaneous and sometimes sudden retrocession to extreme disorganization. Thus the affection of the lung may vary from a slight to a dangerous degree of bronchial irritation, with congestion, causing extensive and rapid consolidation, and even a fatal sphacelus. Or there may be a great

development of tubercle, either confined to the lung or engaging many other organs. Again, a rapid consolidation may take place—generally, as it were, silently—and attended by a cessation of the fever. We shall return to this when discussing the pulmonary complications. So also you will find great variations in the nature and intensity of the abdominal affections, from slight partial congestion, with or without deposit in the mucous glands of the intestine, to extreme relaxation, softening, and perforation of the tube—it may be in many places with or without general acute peritonitis—or, as certain cases in the epidemic in 1827, there may be numerous intussusceptions, great congestion and enlargement, with softening of the spleen; and, though the intestinal suffering be extreme, even without ulceration or perforation of the tube.

Now, gentlemen, what I wish you to bear in mind is, that the relation between the anatomical states of organs in fevers is a variable one, whether as regards the seat, the combination, the intensity of the affection, or the time of its appearance, or its effect on the general malady. Every great epidemic of fever, of whatever kind, must be studied first separately, and then comparatively, and you will find that the history of fever is a much wider subject than you might infer from books.

LECTURE IV.

Contagion—Exclusive doctrines are to be deprecated—Endemic disease arises independently of contact—The numerical system of Louis fails in practical medicine—Evidence in favour of contagion from the *Doctrine of Chances*—Investigations of Dr. Whitley Stokes and the Bishop of Cloyne; with Dr. Paget's remarks thereon—Variation in the degree of contagiousness of acute essential diseases.

As I have said, a striking difference of fevers, compared with the pure neuroses and the structural diseases, is their *contagious* nature.

With regard to this characteristic, medical opinion has been long divided; and I would advise you, as a general rule, not to range yourselves among the advocates of any exclusive doctrine. You are not, therefore, to stand in the false position of men who are fighting for a particular doctrine, whether they be contagionists or non-contagionists. Should you do so, your mind will be occupied with the excitement of controversy rather than with the search for truth. You will become

advocates, while you cease to be inquirers, and once this change occurs in the mind of the observer, he loses caste in the ranks of science.

The advocates of an exclusive doctrine on each side of this great question are able to produce many facts in evidence of their particular views. The facts thus brought forward may be, and probably are, in each case true; but the conclusions drawn from them may not be warranted. It would thus be wrong to infer that a disease was not contagious from the failure of evidence of its communication even in many instances. Equally illogical would be the deduction that a disease arose only by contagion, even where multiplied examples of such an origin could be appealed to.

There can be no doubt that disease has originated, and may originate, without contagion. This must be obvious to every man.

Again, we see a vast number of cases in which disease is endemic. I need scarcely allude to the common case of ague. There are certain districts where ague is constantly produced, and where, if a man who has not had ague goes, and is not in contact with any human being whatever, he will, almost certainly, get the disease. Here, then, clearly, there has been disease independently produced, or at least without *human* contagion. There are certain districts in South America and in the West Indies, vast districts on the coast of Africa, forest districts in Hindostan, where, if a man sleeps for a single night —although we will suppose him to be alone, without any companions but the wild beasts of the forest—he will get some form of fever. We see also, if we look at the records of medicine, unquestionably even within the later periods of the world's history, the appearance of new diseases, totally new diseases. So that we cannot at all deny that disease may be generated, and that it may spread without the intervention of human contagion. We must believe, I say, in the origin of diseases under some exciting cause; but that exciting cause need not be human contagion. On the other hand, innumerable facts show that fever existing in the system is capable of being propagated from one man to another; that it is, in fact, a contagious disease in the strictest sense; and this transmission of the disease may not be merely by contact, but by vicinity—within, it is true, a limited space. Now, the facts which we must rely on to impress this doctrine of contagion on your mind, when you come to examine them, will appear less direct than you might suppose. A great number of men who have written on this subject were really but ill-instructed in the rules of logic; they have not been trained to think properly and argue correctly on the subjects they were considering. For instance, it was a great object with a number of the French school, especially with the disciples of

Broussais and advocates of the physiological doctrine, to establish the non-contagiousness of disease. For the doctrine of contagion implies essentiality; and the physiological doctrine was opposed to all essentiality. According to this doctrine, there was no such thing as essential disease. Every disease was local and inflammatory; every fever was symptomatic. Therefore, in their anxiety to overturn essentialism, they found this outwork, as it were, of contagion, which should be carried. And nothing can be more singular, or, I may say, heroical, than the efforts which a number of the French physicians made to establish the non-contagiousness even of the most contagious diseases. Many of them went out to the Levant and exposed themselves purposely to the contagion of plague—put on the clothes of persons who were labouring under it; slept in the beds with plague patients; inoculated themselves with the matter from the buboes of persons labouring under the disease, in some instances actually inoculated themselves with the blood of plague patients. Well, in many cases these experimenters did not take the plague, and this fact is still relied upon as a proof of the non-contagiousness of plague and of fever generally. But you will at once see how very inconsequential these experiments are. Here are four or five cases of failure of contagion, and as well might you argue that corn does not grow from seed because one grain sown in the earth will sometimes fail to produce the plant. I may state here, however, that some of these investigators paid the terrible penalty of death in their zeal for science, for they did take the plague and were lost.

Among the direct facts which satisfy our minds as to the contagious nature of fever are the circumstances attending its spread through large masses of people. I need hardly here allude to the singularly forcible argument in favour of contagion which may be drawn from the frightful mortality of our Irish medical brethren in the years of 1847 and 1848. This subject I have already alluded to in the theatre of the Meath Hospital, and it is one which we can hardly look back upon without shuddering. The simple fact alone of the mortality of that class of individuals who are most exposed to the disease, furnishes an argument in favour of contagion which we would but weaken by any observations upon it.

There is a mode of dealing with the indirect evidence for contagion, to which I shall now draw your attention. You all know that Professor Louis, of Paris, founded what he terms the numerical system of medical investigation; that is to say, he attempted to reduce the facts of medicine to numerical expression; so that we should be able, as he supposed, to make medicine an almost exact science. My opinion,

I may state, generally speaking, on the subject is, that for the establishment of all that part of medicine which consists in fixing the data of physical diagnosis, the frequency or infrequency of certain pathological changes and matters of that kind, the numerical system is infinitely valuable; but that we cannot, or have not yet been able to apply it so as to furnish rules of treatment. For the object of the numerical physician and that of the practical physician—if I may make use of such a distinction—are different. The object of the numerical physician is to ascertain a rule of treatment which will cure the greatest number of cases out of a given number; but that should not be your object, or that of practical physicians. It is very well to know that such results have been obtained; but it does not follow that you are to act on them. Your course is not blindly to adopt the formula founded on numerical data when it is shown that by its use you can cure the greatest number out of a given number; your object is to cure the diseases of A, B, or C, as they may come before you. And you are not to neglect what you believe to be right in the case of A, B, or C, because you have this array of figures declaring to you that such and such a course, different from that you may be about to pursue, is the rule for saving the greatest number of lives out of a given number. But we may safely use numbers in a different way—as, for example, in investigating the data of a particular doctrine.

My father, when Professor of the Practice of Medicine in the Royal College of Surgeons, directed his attention very much to the subject of contagion. He was a strong advocate of the doctrine of contagion. Perhaps he went too far in his belief in the exclusiveness of this doctrine. Perhaps, also, he went too far in denying the views of the epidemists, or of the non-contagionists. However, that has nothing to say to the present question. He thought that, in looking at the general circumstances which attend the spread of an epidemic in this country, the probabilities for or against the doctrine of contagion might be submitted to calculation. One of his most intimate friends was the late Dr. Brinkley, Bishop of Cloyne, who was at one time the Astronomer-Royal of Ireland. He was admittedly one of the very first mathematicians of his day, and especially skilled in that difficult part of mathematical investigation—the *Doctrine of Chances.*

In the progress of an epidemic in Ireland (and doubtless also in other countries) in a family of twelve persons the disease has been known to attack eleven out of the twelve. In some cases, the passing of the fever through so large a proportion as eleven individuals out of twelve has taken a very considerable period of time, as you may readily understand. It has taken about three months to go through

them all. Now, my father proposed these two problems to the Bishop of Cloyne for solution:—

1st. An epidemic prevails so severely that one person out of seven sickens. A family of twelve is selected in a particular district before the epidemic has visited it. What is the chance that eleven out of that family will take the disease, supposing the sickness of one of the family does not promote the sickening of another—that is, supposing the disease not to be contagious, and supposing the family to be not unusually liable to the disease?

The answer furnished by Dr. Brinkley was, that the probability against such an event is 189,600,000 to 1. That is a very singular and extraordinary result.

2d. The same general conditions being assumed, and also that the number of inhabitants of a district is 7000, what is the chance that in a family of twelve within the district eleven will sicken?

Answer: The chance then is 300,000 to 1 that no family of twelve persons in a population of 7000 will have eleven persons sick.

These numbers furnish proofs so convincing of the truth of the doctrine of contagion, though by no means in an exclusive sense, that it is hardly necessary to go further. The facts on which they were based are ascertained facts; they have been not uncommon facts in epidemic fever; but, recollecting this, the chances against their happening, if the disease were not contagious, would be 189,600,000 to 1 in the one case, and 300,000 to 1 in the other.

On this subject I have had the honour of receiving a letter from Dr. Paget, of Cambridge; and I would not be doing justice to you, or to the question generally, if I did not state the objection made by this eminent physician, as to the soundness of the conclusions in favour of contagion, which appear deducible from these calculations. Dr. Paget observes that the form in which the problems are stated excludes the consideration of all local influences except contagion; in this he is perfectly correct. He considers that had this element of local influence, besides contagion, been included, it must necessarily have diminished, by whatever was its real value, the overwhelming result which the calculations, as they now stand, give in favour of contagion. But even Dr. Paget himself admits that—taking the case of the second calculation—if the consequence of these deductions on the score of local causes were to reduce the probability of 300,000 to 1 to that of 1000 to 1, yet this latter probability would be sufficient to carry conviction to the mind of any candid person. He, however, observes that we have unhappily no means of estimating numerically the requisite deductions, no means of calculating the effect of noxious exhalations from decomposing organic substances, of bad food and other assignable causes, which have been supposed capable of pro-

moting the spread of fevers; and he properly remarks that Bishop Brinkley's results include, with contagion, the possible effects not only of known but also of all unknown causes which may make an individual household more liable to fever than their neighbours.

While I feel indebted to Dr. Paget for having drawn my attention to this point, and to the importance of noticing it, when the numerical value of these results is considered, I think it well to mention that in my father's "Observations on Contagion" there is nothing which would lead one to believe that he advocated that doctrine in an exclusive sense. His object in proposing the problems was to show the great probability in favour of the doctrine of contagion as one and a principal cause of epidemical disease, and this irrespective of the question whether or not other causes might be held to coexist. The result seems to establish the certainty of the existence of contagion as an important cause of the phenomena in question. The singular array of figures is valuable as establishing the fact that contagion has a real existence. The terms of the questions may be held to embrace all other possible causes of sickness. My opinion, however, is that in Ireland local influences have not that great importance either as generators or promoters of fever which some believe them to have.

We must believe that the causes of fever, independent of mere contagion, are various in the extreme, that they are probably numerous and complicated, acting in combination rather than singly, and varying in their effects not only in consequence of their own properties and combinations, but also as regards the condition of the individual in whom fever is developed. Dr. Paget, in observing that our pathology of fever is not so perfect as to assure us that there are no exciting causes besides those which are commonly allowed, notices the comparative immunity of infants and persons above forty years of age from the typhoid fever with rose spots, and affections of Peyer's glands, etc., indicating that the constitution of the individual is an element in the question.

You are then to understand that, while we believe in the contagious nature of fever as an established fact, we do not go the length of saying that all cases of fever originate by contagion. In the present state of knowledge we must, I think, admit that certain combinations of physical circumstances may produce fever, either in a single case or in masses of men. It is hardly possible to gainsay this; but it is at least as well if not better proved that this fever is capable of being communicated by actual contact, or by vicinity, from one individual to another.

If we look to other diseases which affect the whole economy, we

swallowed the plug of a bath-tub some time previously, and found it to pass by the rectum without any difficulty.

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Diphtheria.—The Board of Health of New York has published (*Medical Record*, Jan. 9, 1874), for popular information, the following precautions which should be observed wherever diphtheria prevails:—

Precautions—(*a.*) *The Dwelling or Apartment.*—Cleanliness in and around the dwelling, and pure air in living and sleeping rooms, are of the utmost importance where any contagious disease is prevailing, as cleauliness tends both to prevent and mitigate it. Every kind and source of filth around and in the house should be thoroughly removed; cellars and foul areas should be cleaned and disinfected; drains should be put in perfect repair; dirty walls and ceilings should be lime-washed, and every occupied room should be thoroughly ventilated. Apartments which have been occupied by persons sick with diphtheria should be cleansed with disinfectants; ceilings lime-washed, and woodwork painted; the carpets, bedclothing, upholstered furniture, etc., exposed many days to fresh air and the sunlight (all articles which may be boiled or subjected to high degrees of heat should be thus disinfected); such rooms should be exposed to currents of fresh air for at least one week before reoccupation.

(*b.*) *When Diphtheria is Prevailing.*—No child should be allowed to kiss strange children nor those suffering from sore throat (the disgusting custom of compelling children to kiss every visitor is a well-contrived method of propagating other grave diseases than diphtheria); nor should it sleep with nor be confined to rooms occupied by, or use articles, as toys, taken in the mouth, handkerchiefs, etc., belonging to children having sore throat, croup, or catarrh. If the weather is cold, the child should be warmly clad with flannels.

(*c.*) *When Diphtheria is in the House or in the Family.*—The well children should be scrupulously kept apart from the sick in dry, well-aired rooms, and every possible source of infection through the air, by personal contact with the sick, and by articles used about them or in their rooms, should be rigidly guarded. Every attack of sore throat, cough, and catarrh should be at ouce attended to; the feeble should have invigorating food and treatment.

(*d.*) *Sick Children.*—The sick should be rigidly isolated in well-aired (the air being entirely changed at least hourly), sunlighted rooms, the outflow of air being, as far as possible, through the external windows by depressing the upper and elevating the lower sash, or a chimney heated by a fire in an open fireplace; all discharges from the month and nose should be received iuto vessels contaiuing disinfectants, as solutions of carbolic acid, or sulphate of zinc; or upon cloths which are immediately burned; or if not burued, thoroughly boiled, or placed uuder a disinfecting fluid.

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Library of the College of Physicians of Philadelphia.—We are happy to be able to state that the report of the Library shows an unusually large increase during the past ycar, 1293 volumes having been added, of which number 694 were contributed to the Lewis Library by its munificent founder. Among the acquisitions during the past year may be mentioned the Journal Complementaire, 43 vols.; Heuke's Zeitschrift, 103 vols.; Journ. Kinderkrankheiten, 53 vols.; Deutsche Klinik, 64 vols.; Provincial Med. Journal, 15 vols.; London Med. and Physical Journal, 64 vols.; Dublin Med. Journal, 24 vols.; Callisen's Medicinisches Schriftsteller-Lexicon; Proceedings of the Royal Society, 19 vols.; the Anatomies of Albinus, Hawkins, and Rosenmueller; the works of Seunertius; Lavater on the Physiognomy; a number of British Blue Books, and a collection of works on the Diseases of the Eye.

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The Preston Retreat.—It appears from the report of Dr. William Goodell, Physician-in-charge, that during the past ycar, 136 women were admitted iuto this well-managed institution, and with 13 remaining from the previous year make a total of 149. The number of births was 141, of which 86 were males and 55 females, including three pairs of twins. The

total number of patients admitted since the house was first opened is 811.

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The Children's Hospital.—It appears from the annual report of the managers of this most useful charity that 148 patients were admitted, and 185 cases treated during the past year. There were 4422 cases treated at the dispensary, a large increase over previous years. We regret to learn from the treasurer's report, that the hospital is in need of additional funds. There is no institution which more strongly merits than this the aid of those having the means and the disposition to promote charitable objects.

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Dr. T. G. Thomas on the Diseases of Women.—This work has been translated into German and French, and it is stated, we are pleased to see, that an edition in Spanish and one in Italian are in preparation.

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The Weather in Philadelphia during 1874.—The following is a record of the state of the thermometer and of the rain-fall for each month of the year 1874, as compiled from the records kept at the Pennsylvania Hospital. In the following table are given the highest and lowest points reached by the thermometer in each month of the year, as compared with the corresponding months of the two preceding years:—

Months.	Highest.			Lowest.		
	1874.	1873.	1872.	1874.	1873.	1872
	deg.	*deg.*	*deg.*	*deg.*	*deg.*	*deg.*
January,	65.5	59.	48.	11.	2.	10.
February,	72.	47.	54.5	12.	1.	13.
March,	66.	62.	62.	29.	8.	6.
April,	66.	70.5	85.	24.50	36.5	33.
May,	86.	89.	91.	38.	47.	44
June,	97.5	95.	94.	55.	51.	58.
July,	94.	96.5	98.	64.	62.	70.
August,	93.5	93.	97.	58.	61.	58.
September,	89.	90.5	95,	53.	48.	53.
October,	72.	80.	80.	39.	34.5	37.
November,	61.	60.	59.5	26.	23.	15.
December,	55.	67.5	48.5	14.	19.5	5.
Year,	97.5	96.5	98.	11.	1.	5.

The mean temperature of the month of December, 1874, was 36.08 degrees; December, 1873, 38.37 degrees. The average mean temperature for the month for a period of 37 years is 34.7 degrees.

The mean temperature of the year 1874 was 54.08 degrees; for 1873, 53.86 degrees; average of the means since 1825, 53.55 degrees. The warmest year recorded during this period of 49 years was 1870, the mean temperature being 56.83 degrees; the coldest year of that period was 1836, having a mean of but 49 degrees.

The total rain-fall during the year was 38.088.

The average rain-fall during a period of thirty-seven years is 46.13 inches. The highest rain-fall during that period was in 1867, when 60.06 inches fell, and the lowest on record was in 1825, when but 29.5 inches fell. The greatest quantity of rain that has fallen in any one month was in August, 1867, when 15.81 inches fell. The least was in September, 1846, amounting to only .25 inch.

The coldest day recorded in 1874 was the 16th of January, the thermometer marking 11 degrees. The warmest was June 29th, reaching 97.5 degrees.

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Long Abstinence.—Dr. A. A. Whitney records (*Peninsular Journal Med.*, Jan. 1875) a case in which a man 75 years of age, during a sickness of seven weeks, took and retained only about two ounces of solid food, and a similar amount of liquid nourishment. There were varying periods of from ten to eighteen days, when absolutely nothing but water and ice was taken. On post-mortem an inch of fat was found over the abdomen at the umbilical region, and the intestines and omentum were covered with fat.

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Obituary Record.—Died, at Detroit, on the 18th of December, 1874, in his fifty-fourth year, Richard Inglis, M.D., Prof. of Obstetrics in the Detroit College of Medicine, and formerly President of the Michigan State Medical Society.

——— On the 11th of December, 1874, in the 55th year of his age, James Van Zandt Blaney, the founder of the *Chicago Medical Journal*, and for many years its editor.

FOREIGN INTELLIGENCE.

Death from Chloroform.—A young lad, aged 14, died on the 15th inst., at the Royal Free Hospital, whilst under the influence of chloroform. Mr. F. J. Gant, surgeon, said, that when the deceased was admitted, it was thought that the hip had been dislocated. When he examined the lad, it gave him great pain. He ordered Mr. Thompson, house-surgeon, to administer chloroform. The chloroform was administered for about two minutes, during which time about sixty drops were inhaled. The deceased seemed to be half sensible; and on looking round, they saw the lad fainting, and in a dangerous state. Silvester's respiratory method and galvanism were applied, but without effect, for the lad died at once. A *post-mortem* examination was made. All the organs were sound. The cause of death was syncope from the effects of chloroform. A verdict of death from misadventure was returned.—*Brit. Med. Journ.*, Dec. 19, 1874.

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Death from Methylene.—On Dec. 17, a death occurred at the Royal London Ophthalmic Hospital from the administration of bichloride of methylene. The patient was a woman aged twenty-five, suffering from fistula lachrymalis and caries of bone in the neighbourhood of the lachrymal sac. A week previously the upper canaliculus had been laid open, together with a part of the outer wall of the sac, and a probe of large size was passed down the duct through an obstruction at its upper part. On that occasion the patient took methylene without any unfavourable symptom. On Tuesday two attempts were made by Mr. Couper to pass the probe, but as the patient seemed unable to endure the pain, it was thought advisable to have recourse to an anæsthetic. Bichloride of methylene was administered in the usual way by Mr. Buller, who for the last two years has been accustomed to administer this agent almost daily at the hospital, by means of a perforated leather inhaler covered with flannel. Three drachms by measure were poured into it (the ordinary quantity for an adult being four drachms). At the end of about two minutes after the inhaler had been placed over the mouth and nose of the patient, her breathing suddenly became loud and stertorous. The anæsthetic was at once discontinued and the operation commenced. When the inhaler was removed the lips and cheeks were ruddy, but an unusual pallor of the alæ of the nose and skin around the mouth was noticed. The respiration, however, continued deep, full, and exaggerated. The inspirations were accompanied by loud palatal stertor, and the nostrils were observed to be flaccid, but there was no impediment to free access of air to the lungs. Some seconds afterwards the pulse at the wrists rapidly failed, and then ceased almost suddenly, but the respiration continued for some time, and then failed rather suddenly. The tongue was immediately dragged forwards with forceps, and artificial respiration, by Silvester's method, established. The lower limbs and pelvis were at the same time gently raised from the couch, so as to favour gravitation of blood towards the brain. The face and breast were smartly slapped with a wet towel, and ammonia was applied to the nostrils. A strong solution of brandy and ammonia was thrown into the rectum as soon as possible, but was imperfectly retained, owing to relaxation of the sphincters. Artificial respiration was continued for forty minutes, but, with the exception of two or three sighing inspirations at intervals within the first few minutes, no sign of returning life was shown.—*Lancet*, Dec. 19, 1874.

In the succeeding number of the *Lancet*, in commenting on this case, Mr. George Pollock asks the very pertinent questions: "Is it not time that the profession should determine to discountenance and discontinue the use of chloroform and other dangerous anæsthetics, and have recourse alone to the administration of ether in operations of any duration?"

"If chloroform often kills, if bichloride of methylene is occasionally fatal, if the inhalation of ether is safe, is it not almost criminal to have recourse to the use of anæsthetics known to be attended by risk, in preference to one in which there is comparatively no element of danger?"

We are glad to learn from Mr. Pollock that, in his private practice, ether is the sole anæsthetic he uses, and that at St. George's Hospital the administration of chloroform has been long discontinued, and ether has been substituted.

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Recurrence of Measles Four Weeks after a First Attack.—A child of fifteen months (recorded by Dr. L. Faye in *Deutsche Klinik*, No. 24, 1874) was attacked with measles at the same time as a great many other children. The attack was a very mild one, and lasted only seven days. A month after the first attack a second eruption, of the same mild character, showed itself. In connection with this case the author mentions that, at Christiania, Bidewsky observed a like relapse after fifteen days' interval, and Taulon after three weeks. Similar facts have been observed with scarlet fever. The explanation of these facts is rather difficult, as the idea of a new infection can scarcely be admitted.—*Lancet*, Jan. 2, 1875.

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Infusion of Myrtle.—Dr. Delioux De Savignac recommends (*Révue Medico-Photographique*, Oct. 1874) this as a useful and agreeable injection in leucorrhœa. The berries or leaves, containing both essential oil and tannin, are the best parts of the plant for this purpose. From ten to fifteen grammes should be infused in a litre of boiling water, and, if powerful astringent action is desired, from twenty to thirty grammes may be used. The injection should be used cold or tepid, and in large quantities (three or four litres), and thrown up as high as possible. The application is much liked by women on account of its pleasant odour.—*Med. Times and Gaz.*, Dec. 26, 1874.

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Subcutaneous Injection of Carbolic Acid in Traumatic Erysipelas.—Dr. Hirschberg relates (*Berlin Woch.*, Nov. 30) the case of a slaughterman who accidentally cut his upper arm, the wound being about five inches long, and penetrating the muscles. A good deal of venous hemorrhage followed. On the second day a bad attack of erysipelas of the arm came on. A two per cent. solution of carbolic acid was injected subcutaneously at the upper boundary of the erysipelas, and next day all traces of erysipelas had disappeared. The injections were repeated five times within the next three days, and the wound healed far more rapidly and with much less suppuration than could have been expected.—*Med. Times and Gaz.*, Dec. 16, 1874.

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Capillary Puncture of the Bladder.—M. Fochier, at a recent meeting of the Lyons Society of Medical Sciences, read a paper (since published in the *Lyon Médical*, December 6) "On Capillary Puncture of the Bladder and the New Indications which it gives rise to and fulfils." He is a very warm advocate for an operation which he has found alike simple, efficacious, and harmless, and which admits of very frequent repetition over a small extent of surface. He passes under review the various circumstances under which it is indicated, viz.: 1. Enlarged prostate, with complete retention or complicated with false passages or with inflamed or irritable urethra, as also partial retention, when catheterism is difficult or dangerous. 2. When the urethra is the seat of inflammatory or traumatic lesions. 3. In stricture that is impermeable or accompanied by false passages or ammoniacal catarrh. 4. In women in whom catheterism is impossible during labour, in retroversion of the uterus, and in the compression caused by tumours. M. Fochier's general conclusions are—1. Whether the retention be total or partial, the innocuity of capillary puncture (even in cases in which the peritoneum has been pierced by it) is such that it should interdict catheterism wherever this is impossible, difficult, dangerous, or very painful. 2. Wherever it would be of advantage not to allow of the urine passing along the urethra, and the bladder has risen above the pubes, puncture should be had recourse to, even when urine passes by the canal.—*Med. Times and Gaz.*, Dec. 26, 1874.

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The Causation of Scarlet Fever.—Dr. J. G. Hendrick, of Edinburgh, is at present engaged in a research on the causation of scarlet fever, of which there

is an epidemic at present in Edinburgh. Microscopic examination with high powers reveals, we understand, the presence in the mucus, from the tonsils and in the skin, of minute bodies similar to those discovered by Klein in typhoid fever, and by Klebs in diphtheria.—*Brit. Med. Journ.*, Dec. 26, 1874.

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The Prevention of Sea-sickness.—Dr. Giraldès has published, in the last number of the *Journal de Thérapeutique*, an account of the means by which he avoided sea-sickness during two passages to England and back. He was at Boulogne last June *en route* for London, when the weather was so rough that many intending passengers hesitated to cross the channel. Dr. Giraldès was informed by a colleague at Boulogne that American physicians used the syrup of chloral, as a preventive of sea-sickness with successful results. He therefore obtained some syrup of chloral, put himself into a quiet corner, and took his syrup directly the vessel was in motion, when, although his fellow-passengers experienced the usual unpleasant consequences, he arrived at Folkestone without having suffered the least inconvenience. The same results were obtained on the return voyage; but he increased the amount of chloral. He had again occasion to cross the channel at the end of September, by the night boat from Calais to Dover, and thinking with reason that the sea would be rougher at that season than usual, he had a draught made up composed of chloral, 3 grammes (45 grains); distilled water, 50 grammes; gooseberry syrup, 60 grammes; and French essence of peppermint, 2 drops. He took half of the draught as the vessel left the harbour, and arrived at Dover without having suffered in the least from sea-sickness, whilst his companions were in the usual condition of prostrate misery. A very heavy sea was running. On his return from London on October 30, there was a high sea and much wind; he accordingly took the remaining portion of his draught, soon went to sleep, and only awoke on his arrival at Calais in the best possible condition. Dr. Giraldès remarks that he is, as a rule, affected by sea-sickness when he crosses the channel, and that his two trials of chloral have convinced him of its efficacy as a preventive of that most disagreeable malady. He adds that he never goes down into the cabin, but makes himself as comfortable as circumstances will allow on deck.—*London Medical Record*, Dec. 9, 1874.

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New Liniment for Scabies.—Dr. Clemens gives the folowing formula in the *Allg. Med. Central Zeit.*, Dec. 9th, 1874: Take of arsenious acid, one grain; carbonate of potash, fifteen grains; spirit of soap, three drachms; spring water, three ounces. The liniment to be rubed twice daily on the parts affected. It is said to be efficacious, and unattended with any trouble or inconvenience. The carbonate of potash is added to the arsenious acid to promote its solubility, and to prevent the too rapid drying up of the liniment. Dr. Clemens has used this application for the last five years with the best results. Of course disinfection of the clothes is useful; but where such cannot conveniently be carried out, the liniment lying on the body serves as an attraction to the acari, which, by reaching it from the clothes, perish in it. Very little of the quantity mentioned in the prescription is necessary, and the frictions have always proved harmless as far as the digestive organs are concerned. It does not hurt the youngest child.—*Lancet*, Dec. 6, 1874.

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Hydrate of Chloral as an Antiseptic and Disinfectant.—Dr. Heron Watson has been lately making extensive trial, in his wards in the Royal Infirmary, of hydrate of chloral as an antiseptic and disinfectant. It is used in the form of an aqueous solution of about five grains to the ounce, and also as an ointment combined with paraffin, white wax, and almond oil. It answers the purpose admirably, and is found to be a non-irritating application, while at the same time it cleans and heals sores and keeps down the bad smell. It is also being tried as a preservative solution for pathological specimens, and appears likely to be very useful for that purpose; but there has not yet been sufficient time to test it thoroughly.—*British Med. Journal*, Dec. 12, 1874.

Comparative Effects of Sea and Mountain Air.—Professor Beneke, of Marburg, makes some observations in the *Deutsches Archiv für Klinische Medicin*, March, 1874, on the comparative influence of sea and mountain air on the system. He believes that he has ascertained experimentally that bodies part with their heat much more rapidly on the sea-coast than on mountain heights. This explains why it is that metamorphosis proceeds more rapidly at the sea-side than elsewhere, and that an increased amount of urea and a diminished quantity of uric acid and earthy phosphates are met with in the urine. The increased abstraction of caloric makes an increased production necessary, and accordingly leads to greater rapidity of metamorphosis. If these observations are verified Beneke points out that we will have a much more definite indication for the recommendation of particular climatic changes. As the increased metamorphosis depends, *cæteris paribus*, on the rapidity with which heat is abstracted from the body, it follows that, in mountain air, the processes of change will be less considerable than at the sea-side. Accordingly irritable, nervous, excitable people will find themselves better in mountain air; on the other hand, scrofulous subjects, and persons with good digestive organs, who have been overworked, will derive greater benefit from a sojourn at the sea-side. The diminished atmospheric pressure at considerable elevations is also of importance, both by rendering bodily movements easier, and by increasing the activity of the respiratory movements. In making his observations, Beneke was careful to exclude every source of error, such as might be caused by difference of temperature, moisture, and winds, and he can only refer the remarkable differences which he has observed to the diminished density of mountain air making it a worse conductor of heat.—*London Med. Record*, Dec. 23, 1874.

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Sanitary Value of Iron Water-Pipes—It appears from the following that iron water-pipes have a distinct chemical value. Professor Medlock proved by analysis, several years ago, that iron, by its action on nitrogenous organic matter, produces nitrous acid, which Muspratt called "Nature's Scavenger." The latter chemist found, as a general result, that by allowing water to be in contact with a large surface of iron, in about forty-eight hours every trace of organic matter was either destroyed or rendered insoluble, in which state it could be purified effectually by filtration. Medlock found, on examining the water at Amsterdam, which smelt and tasted badly, that the sediment charred on ignition, and was almost consumed, showing that it consisted of organic matter. He also found that water, instead of taking iron from the service pipes, before entering them contained nearly half a grain of iron to the gallon; while in the water issuing from the pipes there was only an unweighable trace. Before entering the reservoir, the water holding iron in solution formed no deposits, while the water coming from the pipes, and freed from iron, gave organic sediment above mentioned. He then made analysis of water brought in contact with iron, and water not in contact, with the result that the water which had not touched iron contained 2.10 grains of organic matter, and 0.96 grain iron; the other gave only a slight trace of both, showing plainly that the organic matter in the water was either decomposed or thrown down by contact with iron, and this water, when filtered, was found to be clear, of good taste, with no smell, and free from organic matter. It is not stated in what shape the iron was held in solution, but it was probably in that of carbonate, the usual iron salt in springs.—*Sanitary Record*, Dec. 19, 1874.

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Invalid's Kitchen at Leeds.—The annual meeting of the supporters of the Leeds Invalid Kitchen was recently held in that town. This institution, which is worthy of imitation in other places, is evidently engaged in most useful work, that is, in providing, during illness and convalescence, wholesome and nutritious food, beef-tea, and other articles of diet for invalids among those persons to whom their provision would, without assistance,

be an impossibility. Medical attendance is now within the reach of the poorest classes who care to have it, and medicines may generally be obtained, but those well acquainted with the poor know how useless it is in large numbers of cases for a doctor to order beef-tea, or broth, or meat, or even such simple articles as gruel or barley-water, which are often even more important than medicine. The very poor cannot buy the necessary materials, and in a large number of cases even if the money were given to them, they would scarcely know how to lay it out to advantage, still less to cook the ingredients properly, if they had the proper utensils. The Leeds Invalids' Kitchen, from the report which was read by Mrs. Stacey, is apparently doing, and doing well, this important work under the control of a committee of ladies. The funds of the Institution appear to have suffered during the past year from the high price of meat, and the chairman in expressing his pleasure to become an annual subscriber of 5*l.*, and appealing for other assistance, called attention to the fact that the expenditure of a few shillings in nourishing diet in many cases of illness will save a life, and in still more cases materially shorten an illness. The truth of this is beyond question, and from a sanitary point of view such institutions as the Leeds Invalid Kitchen are worthy of most cordial support, especially in large towns, where real poverty principally exists, and is more likely to be overlooked.—*Sanitary Record*, Dec. 19, 1874.

The usefulness of such an institution in a community can scarcely be overestimated, and we trust that similar establishments may soon be organized in our own large cities.

—

Inoculation with Bee Poison.—Mr. George Walker, of Wimbledon, in a letter to the editor of the *British Bee Journal*, opens up the interesting question as to whether immunity from the pain and other injurious effects of the sting of the bee can be obtained by inoculation. The subject, it appears, is referred to in "Wood's Book on Bees," and Mr. Walker, noticing the manner in which the owner of the Hanwell apiary managed his bees (the stings apparently having no effect upon him), asked him how long a period it required to make a man sting-proof, and was answered that his son had only been a short time working with bees and was quite free from any of the usual effects of bee-stings. Mr. Walker determined to put the matter to the test of experiment. The *modus operandi* was as follows: He went to one of his hives, caught a bee, placed it on his wrist, and allowed it to sting him, taking care that he received the largest amount of poison by preventing it from going away at once. The first few stings he got during this experiment had the usual effect; the whole of his forearm was affected with a cutaneous erysipelas, and there was disorder of the nerves, accompanied with heat, redness, swelling, and pain. This attack lasted till Tuesday, and on Wednesday, Oct. 7th, he was so far recovered that, following the same plan, he stung himself three times more, also on the wrist. The attack of erysipelas this time was not nearly so severe, but, as before, he felt a stinging sensation as far up as his shoulder, and he noticed that a lymphatic gland behind his ear had increased considerably in size, the poison being taken up by the lymphatic system. On Saturday, Oct. 10th, he again treated himself to three stings, and the pain was considerably less, though the swelling was still extensive. At the end of the next week (Oct. 17th) he had had eighteen stings; then he stung himself seven times more during the next week, and reached the number thirty-two on Oct. 31st, the course of the experiment having lasted very nearly four weeks. After the twentieth sting there was very little swelling or pain, only a slight itching sensation, with a small amount of inflammation in the immediate neighbourhood of the part stung, which did not spread further.—*Lancet*, Dec. 19, 1874.

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Obituary Record.—In London, on Nov. 27, aged 79, Sir James Ranald Martin, C.B., F.R.S., President of the Medical Board at the India Office, for the examination of Indian officers.

STILLÉ'S THERAPEUTICS—New Edition—Now Ready.

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For all who desire a complete work on therapeutics and materia medica for reference, in cases involving medico-legal questions, as well as for information concerning remedial agents, Dr. Stillé's is "*par excellence*" the work. The work being out of print, by the exhaustion of former editions, the author has laid the profession under renewed obligations, by the careful revision, important additions, and timely re-issuing a work not exactly supplemented by any other in the English language, if in any language. The mechanical execution handsomely sustains the well known skill and good taste of the publisher. —*St. Louis Med. and Surg. Journ.*, Dec. 1874.

Our readers will find all that is known of medicines from the single standpoint of clinical experience fully discussed in such a way always as to make its perusal a pleasure as much as a profit. From an historical point of view, the book is as good as an encyclopedia.—*Cincinnati Clinic*, Jan. 9 1875.

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As a handbook, which clearly sets forth the ESSENTIALS of the PRINCIPLES AND PRACTICE OF MEDICINE, we do not know of its equal. — *Va. Med. Monthly*, Nov. 1874.

Without doubt the best book of the kind published in the English language.—*St. Louis Med. and Surg. Journ.*, Nov. 1874.

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This manual is excellent of its kind, and has long been favorably known to students as a condensed and yet complete review of all the subjects pursued in the usual medical course.—*N. Y. Med. Journ.*, Sept. 1874.

HENRY C. LEA, Philadelphia.

THE MEDICAL NEWS AND LIBRARY.

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CLINICS.

CLINICAL LECTURES.

Clinical Lecture on Gelatinous Disease of the Synovial Membrane (new operation). Delivered Jan. 18, 1876. By C. F. Maunder, F.R.C.S., Surgeon to the London Hospital.

GENTLEMEN: I propose to-day to draw your attention to a disease which is very common under the age of puberty—I allude to gelatinous disease of the synovial membrane, popularly called "white swelling" when met with in the knee, but to which all joints are liable. It will be convenient to observe its progress in this joint because it is comparatively superficial, and its condition can therefore be readily appreciated by the senses of sight and touch. The onset and early stage are illustrated by the following case (reported by Mr. John Job, house-surgeon).

John L——, sixteen years of age, was admitted under Mr. Maunder's care on Nov. 30, 1875. The patient states that until twelve months ago he was quite healthy; he then, one day, slipped from a ladder, and, in falling, caught his right leg between the bars. In this position he was suspended for two or three minutes. The accident caused him very trifling inconvenience at the time, and it was not until the following day that he noticed the knee to be swollen and stiff; but there was no acute pain. He did not rest the limb, but followed his occupation,

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that of a ploughboy, as usual. For six months, beyond a feeling of stiffness and an occasioual sensation of heat, there was little to trouble the patient; his general health was good, and he slept well. Then the joint began to get painful, and he was obliged to give up work, and use a stick in gettiug about. He then came to the hospital. On admission, the patient, of light complexion and fairly nourished, said he had got thinner since the accident. The right knee was uniformly swolleu, the natural elevatious and depressions being concealed. It was hotter than the surrounding parts. To the touch the swelling was elastic, yielding a deceptive sense of fluctuation, and tender on pressure. The leg was slightly flexed, with inability to straighten it. Slight wastiug of limb. Family history very good.

The history of this case then is often the history of many others: some slight accident, of which little notice is taken at the time, and which probably is never thoroughly recovered from. At the same time there are many instances in which it does appear to be spontaneous or of constitutional origin. From this point of view it is called strumous, a term which I understand to apply to a subacute or chronic form of inflammatory action tending in the direction of extensive cell-growth, degeneration, and suppuration (occasionally to fibrination), rather than to resolution. The disease affects two classes of patients indiscriminately—the delicate and the fair, with chiselled features, clear complexiou, pearly sclerotic, and fine hair; the plain and unattractive, with ill-defined lineaments, thick skin, and coarse hair. Now this is very different to a scrofulous disease consequent on tubercle, aud must not be confounded with it. Pathology tells us that the altered condition of the kuee (for example), which had caused the absence of its natural hollows and elevations, is due to a mass of cells growing, some on the surface of the synovial membrane and towards the joint cavity, and others in the subsynovial tissue, aud to such an extent as to encroach upon and even obliterate the joint-cavity, and to conceal the natural outline of the joint and to render it shapeless. Now these cells, when examiued by the microscope, have all the appearance of granulation-cells, and, like them, under favourable circumstances, will become developed into fibrous tissue. Unfortunately, in the majority of instances, the patient not being strong, degeneration follows, and suppuration is established. Thus, a joint, remaining more or less swollen and stiff, becomes hot, tender on pressure, and painful after exercise. At the same time the ligaments are invaded and disappear, the articular cartilages degenerate, the bone becomes carious, and sinuses are established in one or more directions, as in the preparation before you, and often in accordance with gravitation, in order that the pus and other débris may be discharged. While these destructive changes are taking place, the hamstring muscles displace the leg backwards and rotate it outwards, both shortening and distorting the limb, and possibly to be followed by either amputation or excision. Happily, in many instances, the degree of disorganization which I have mentioned does not transpire, but a fibrous anchylosis, more or less complete, occurs. Two such cases have beeu recently under care, and left the hospital last week convalescent.

Charlotte B——, aged six years and a half, admitted Sept. 28, 1875. The mother stated that the child struck the left knee three years ago, when it became swollen and stiff and ultimately painful, and remained so for a loug time. She had a doctor for it, who called the disease "white swelling." The child is fairly nourished, somewhat anæmic, has dark hair and eyes, and is very intelligent. On examination, the left lower extremity is much wasted, the leg, which is somewhat displaced backwards aud rotated outwards, forms with the thigh, when fully extended, an angle of 115°. The patella is immovable and fixed to the lower part of the outer condyle of the femur.

The case of Alice F——, eleven years of age, is almost similar in every particular. She fell and struck her knee five years ago; it gradually became swollen

and stiff, but there was very trifling pain. She had never kept her bed.

You will recollect that these are the two instances in which, to remedy a deformity consequent on anchylosis of the patella to the femur, I performed a subcutaneous operation. With a tenotomy-knife alone in one instance, aided by a saw in the other, I separated the patella from the femur—an all-important step—to promote extension of the leg. No discomfort whatever, no suppuration, followed the operations, and both children left the hospital last week greatly benefited.

This preparation which I show you, where the patella is fixed to the femur by fibrous anchylosis, while the tibia is somewhat displaced backwards, is in a condition similar to that in which the joint of each of those children was previous to operation. You will readily perceive that a patella so fixed is a direct mechanical obstacle to extension of the tibia upon the femur, and that it must be dislodged before that can be effected. The operation which I have suggested, and which you have seen me perform twice, had this object in view. In one case 45° of exteusion was gained by the operation, and the child gets about comfortably with a high-heeled boot.

In these two cases the granulation-cells, instead of degenerating into pus, were converted into fibrous tissue, as in a cutaneous cicatrix, leading to a firm union of the patella to the femur, but to a weak union of the latter to the tibia.

Prognosis.—This, you will at once see, is unfavourable, as the disease is rarely arrested, leaving the joint sound. This gelatinous disease of the synovial membrane may be conveniently divided into two stages. The *first* is characterized by *cell-growth*, while the *second* is illustrated on the one hand by the *adhesive*, on the other hand by the *suppurative* form of inflammation. Of these latter the adhesive is the least to be feared, while the suppurative is of grave significance, because the necessity either for excision or amputation may arise during its progress.

Diagnosis.—The chief symptoms are (following or not some slight accident) stiffness in the morning, causing limping, mechanical in its nature, due to the swelling; gradually passing off on using the limb; associated at first with painless swelling; to be attended by tenderness and pain, not necessarily obliging the patient to lie up, unless suppuration, "starting pains," etc., arise.

All these cases illustrate the insidious and comparatively painless nature of the malady even to anchylosis, neither of the girls having kept her bed.

Treatment.—Good diet, change of air, and tonics, including preparations of iodine, are indicated by reason of the chronic nature of the complaint, implying a serious constitutional error. Perfect rest to the joint must be insured by splints, with an occasional counter-irritant in the shape of a flying blister; and when heat and tenderness have nearly subsided, strapping and bandage, to support the cell-mass and prevent venous congestion, must be applied. When all danger of resuscitating inflammation appears to have ceased, frictions and passive motion will much avail. Thomas's splint, such as I show you, as used by one of the above children, with a patten attached to the boot of the sound foot, will allow the patient to take exercise in the open air, will promote extension, and yet secure a certain amount of repose to the joint.

Tenotomy.—You will have remarked that, of my three cases, in that of the lad the disease is in its first stage, while in the two girls the malady has terminated in anchylosis with deformity. Now, as prevention is better than cure, I would suggest, as a rule of practice, that an attempt be made to prevent that deformity that you have witnessed in these children by a subcutaneous section of one or more hamstring tendons—at any rate the biceps, the power of which to rotate the leg outwards you can readily appreciate on your own person. I adopted this plan in the case of a child of a professioual friend, and I believe with marked benefit. I propose to do the same in the instance of the lad above mentioned.—*Lancet*, April 15, 1876.

HOSPITAL NOTES AND GLEANINGS.

Traumatic Tetanus following Injury of the Knee; Amputation through the upper part of Thigh; Recovery.—The desirability of removing the peripheral source of irritation in traumatic tetanus is clearly shown in the following case.

Wm. M., æt. five, was admitted to the Royal Hospital for Sick Children, Edinburgh, under the care of Dr. MACDONALD, on February 19, 1876. A month prior to admission he fell from the back of a cart, and was drawn along the ground, receiving what was described as a deep wound over the inner aspect of the left knee. A stitch and simple dressing was all the treatment employed. From the first the inflammation spread superficially, and three weeks after the accident the knee began to swell. For some time before entering the hospital it was observed that his mouth was stiff, and that he could not swallow any solid food.

On admission, an ulcerated area about the size of the palm of the hand extended upwards from the level of the left knee-joint, with which it communicated at its lower part by an opening through which the inner condyle of the femur could be distinguished, exposed, and roughened. The patient's general health was much impaired, but his appetite remained good. The temperature was 102° F. He was ordered a draught containing ten grains of chloral along with fifteen grains of bromide of potassium, but yet he passed a very restless night.

Feb. 20. Morning temperature 100°. In the afternoon, while retracting his tongue, his jaws closed on it, and on its being freed the teeth snapped together. Temperature in the evening 103°. At eight P. M. he had an attack of opisthotonos, which lasted about two minutes. He was at once put under chloroform. Professor Spence, who was called in consultation, expressed the opinion that on account of the injuries alone, amputation was required. He accordingly, at 8.30, performed amputation through the middle third of the thigh by a long anterior and two shorter posterior flaps principally composed of skin. No sutures were used —merely three strips of plaster to retain the flaps in position, and the stump was covered with a single layer of lint soaked in carbolized oil. During the operation the child had two attacks of spasms, while under chloroform. The condyles of the femur were found to be split into the knee-joint, and the joint itself was filled with purulent fluid. Twenty grains of chloral were at once administered, but on coming out of chloroform he had attacks of opisthotonos every ten minutes for about two hours, when twenty grains more were given. The interval of rest then extended to forty-five minutes. After each spasm he had five grains of chloral, and on three occasions hypodermic injections of three, five, and seven and a half minims of solution of the sulphate of atropia (B. P.).

21*st.* Slept soundly for about three hours in the morning. During the day he had four spasms, at intervals of about two hours. He took milk and chicken soup freely. At 10 P. M., he had a very severe attack, which lasted for five minutes. Seven minims and a half of atropia were injected, and a spinal ice-bag applied.

He slept soundly, and had no more tetanic symptoms, except on one occasion, when Prof. Spence, observing a fixed expression on his face, ordered an atropine injection. His appetite continued good, and he was soon able to eat solids. The chloral was kept up, however, in diminishing doses for about a week. The temperature fell to 98.6° on the second day after the operation, and continued to range between 98° and 99° for nine days, when a considerable rise took place, coincident with the appearance of a measly rash. By the 14th of March, the face had lost all its pinched appearance, and the stump was almost entirely healed by primary union.

Note by Professor Spence.—In recording the foregoing case as a contribution to the treatment of a very obscure disease, I would not wish to be understood as indicating the opinion that amputation would be successful in arresting the tetanic symptoms in all cases where they arise from lesion of a limb, by removing

the cause, and cutting off the continuity between the irritated peripheral nerves and the nerve-centres. Such an opinion would require much larger foundation than a single successful case.

I have frequently performed amputation of lacerated fingers in tetanus, but without any benefit, although the operations were performed early in disease. Indeed, the progress of cases of traumatic tetanus would rather lead to the view that when the symptoms fairly manifest themselves certain changes have already occurred in the nerve centres which the removal of the originating cause comes too late to benefit. But the case just recorded warrants me, I think, in saying that no remedial measures could have relieved the patient unless the injured limb had been removed; and, in so far, the amputation must be regarded as a main part of the curative measures. In this case the disorganized state of the knee-joint left no room for hesitation; but, from my experience of tetanus, I believe the irritable and ulcerated cutaneous surface was the real exciting cause, and the result of this case would certainly encourage to amputate in similar cases even where the local injury was less severe.—*Lancet*, April 22, 1876.

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Congenital Cleft Palate treated by the application of Strong Nitric Acid and without Operation.—Mr. Mason has at present under observation at St. Thomas's Hospital several interesting cases of congenital cleft palate, which he is treating by the application of strong nitric acid alone, and consequently without the use of the knife. The ages of the patient vary from a few weeks to several years. Mr. Mason thinks that this method of effecting union is especially applicable to cases in which the cleft is of average extent, and even where the hard palate is partially implicated. In more severe instances the ordinary operation may be required. Mr. Mason finds that the application of the acid is attended with no pain or inconvenience whatever to the patient, and although the cure is more slowly accomplished, it has the advantage of being sure, and of completely closing the fissure in the most perfect manner, without the risk of the parts giving way, either wholly or partially, as too often happens after the usual operation of staphyloraphy. A further gain seems to be that the cases may be dealt with as out-patient, as in all the examples now under notice. Mr. Mason, after many trials, prefers the strong nitric acid to any other form of caustic. We shall continue to watch the progress of these cases, and give the results on a future occasion.—*Lancet*, May 6, 1876.

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Large Strangulated Congenital Hernia; Operation, followed by Suppuration between the Abdominal Muscles; Recovery.—The following case of straugulated congenital hernia presents some points of clinical interest. The hernia was very large, oblique inguinal, and congenital; the strangulation was very acute, and the progress of the case afterwards was exceptional. The wound of the operation was small, and over the neck of the sac; but some difficulty was experienced in returning the large quantity of bowel—about sixteen or eighteen inches—into the abdomen, as it appeared to be held by some constriction in the scrotum. Mr. Lawson therefore withdrew the whole of the protruded intestine from the sac of the tunica vaginalis, and then the reductiou was easily accomplished. The patient at first progressed very favourably. All tenderness of the belly ceased after the operation; but on the second day the temperature rose to 102.6°, the pulse to 112, and the man complained of tenderness on the right side of the abdomen. The belly was flaccid, and the tenderness seemed to be confined to the abdominal walls. The high temperature and quick pulse, with tenderness on the right side, continued until the sixth day, when the symptoms were relieved by the escape of a large quantity of pus, which came from the wound when pressure was applied with the hand over the right iliac region. There was extensive suppuration between the abdominal muscles, and this accounted for the continued high temperature and pulse. On the following day the pulse went down to 96, and the temperature to 99.2°. During the development of these

symptoms the man had a wakeful, busy delirium, which closely resembled delirium tremens. The patient improved as soon as free suppuration was established, and has continued to do well. The amount of pus which escaped daily for many days was not less than from four to six ounces. He is now convalescent.

James C——, aged twenty-four. was admitted into Middlesex Hospital on Dec. 29th at three o'clock in the morning, with a large scrotal hernia of the right side, which he was unable to return. He had been ruptured all his life, and had worn a truss, which, however, did not prevent the hernia from frequently coming down; but up to the time of admission he had always been able to reduce it. Four hours before his admission, whilst straining at stool, the hernia descended, and this time it resisted all his endeavours to get it back, and as he began to feel some discomfort, he applied to the hospital for relief.

On his admission he was seen by the house-surgeon, who found a large scrotal hernia, not in the least tense, but rather tender, and as there were no other symptoms the man was placed in bed, with his pelvis raised. A full opiate was given by the mouth, and an ice-bag was placed over the tumour. The lower bowel was also emptied by means of an enema.

The man derived no benefit from this treatment, but symptoms of straugulation rapidly set in, and at nine o'clock the tumour was very tense and tender to the touch. There was pain in the abdomen with a sense of dragging and nausea. Mr. Lawson then saw the patient, and decided to operate at once. There was nothing special in the operation, except that after the division of the stricture there was some difficulty in returning the bowel, as it seemed to be held in the scrotum. Mr. Lawson accordingly drew out, as already stated, the intestine, about fourteen or sixteen inches, from the sac of the tunica vaginalis, and then it slipped back easily into the abdomen. The wound was closed and a pad and bandage applied. The belly was covered with a layer of cotton-wool, and he was ordered half a grain of extract of opium, which was to be repeated every two or three hours if in pain. After the patient had recovered from the ether, he expressed himself greatly relieved by the operation.

Jan. 3d. The patient passed a good night, but complained of pain on right side of abdomen. The belly was quite flaccid. The temperature and pulse had risen; pulse 112; temperature 102.6°. To go on with the opiate pills.

The patient continued in much the same state, with a high pulse and temperature, until Jan. 4th, when there was a large escape of pus from the wound, evidently from extensive suppuration between the abdominal muscles.

5th. Much better. The tenderness was greatly diminished. Pulse 96; temperature 99.2°. The discharge very free from the wound.

6th. The bowels acted well without medicine. The discharge still continues very copious on pressure with the hand over the right iliac region.

30th. The man has progressed favourably since last report. The discharge has ceased, and he is convalescent.

The patient has since left the hospital quite well.—*Lancet*, March 25, 1876.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

The Bureau of Medical Service of the Centennial Exhibition.—The Bureau of Medical Service has been organized for the immediate gratuitous relief of all cases of sudden illness and accident occuring to visitors and others, during the continuance of the Exhibition.

The building of the bureau, fitted up for the temporary relief and comfort of such cases, is situated in Landsdowne Ravine, in the rear of Judges' Hall, midway between the western end of the Main Building and Horticultural Hall. It is distinguished from other buildings by its flags, one of which is the United States flag, having the words Centennial Medical Department printed across the centre; the other is the hospital flag, having a large red Geneva Cross on a white field.

The organization consists of William

Pepper, M.D., Medical Director; Theo. Herbert, M.D., Secretary and Resident Physican; Jacob Roberts, M.D., S. W. Gross, M.D., Roland G. Curtin, M.D., H. C. Wood, M.D., Hamilton Osgood, M.D., DeForest Willard, M.D., Medical Staff.

The Bureau is provided with an ambulance and stretchers for the immediate removal of all cases to the hospital building and from thence by the ambulance to the city hospitals, the patients' homes, or hotels. It is not intended in any case to retain the patients in the hospital building over night, it being only intended for a temporary resting-place.

During the hours of the Exhibition the members of the staff will be constantly on duty at the hospital.

The Resident physician will have charge of the guard—men of the fire department, attachés of the various commissions, and all others residing within the grounds. He will also act as Sanitary Officer and make a strict sanitary inspection of the grounds daily.

Sanitary Condition of Philadelphia.—Owing to the very large number of persons who contemplate a visit to Philadelphia during the coming summer, it seems important that the utmost publicity should be given to the followiug facts bearing on the sanitary condition of Philadelphia, which are extracted from a circular on this subject just issued by William Pepper, M.D., Medical Director of the International Exhibition of 1876.

The following statistics, which have been obtained from the most authentic sources accessible, represent the mortality in some of the chief cities of the world during the past four or five years:—

	No. of years.	Average population.	Average total mortality.	Average death-rate per thousand.
Vienna	5	648,560	20,424	31.42
N. York	5	994,458	29,601	29.93
Berlin	4	250,000	28,420	29.91
London	5	3,284,488	76,741	23.33
Paris	4	1,851,792	42,724	23.06
Phila.	5	744,831	16,573	22.27

While thus showing an average rate of mortality more favourable than that found in any other city containing over 500,000 inhabitants, Philadelphia has recently (1874) attained a degree of healthfulness almost unparalleled, viz.: with a population at that time of 775,000, the number of deaths was but 14,966, giviug a death-rate of ouly 19.3 per thousand. These very favourable results are largely due to the abundant and cheap water-supply, and to the opportunities given, even to the poorest citizens, for the eujoyment of purc couutry air in the great Fairmount Park, which contains 2991 acres. The extent to which this is valued by the citizens may be inferred from the fact that during the year 1875, the Park was visited by over eleven million persons.

The most powerful influence of all, however, is the absence of that overcrowding of the population, which is the most fruitful source of sickuess and death in many quarters of nearly all other large cities. This will be more clearly comprehended when it is remembered that the 817,488 inhabitants of Philadelphia are spread over an area of $129\frac{1}{8}$ square miles, which are traversed by more than one thousand miles of streets and roads; and that the city contains, in addition to other kiuds of buildings, 143,000 dwelling houses occupied by families, a number exceeding by over 40,000 that of any other city in America.

The climate of Philadelphia is also, on the whole, a favourable one, although presentiug many of the peculiarities common to inland localities. The mean anuual temperature of the last ten years is 53.73° Fahrenheit; the average annual rain-fall is about forty-five inches.

The following table exhibits the mean temperature of each month for the past ten years, showing that the range is far less extreme than is found in mauy other less favourably situated localities.

Mean Temperature (Fahrenheit) of each month during the past ten years.

January	32.72° F.
February	33.12 "
March	39.16 "
April	53.36 "
May	63.24 "
June	73.54 "
July	78.74 "

August	75.92°	F.
September	67.72	"
October	56.03	"
November	43.34	"
December	33.92	"

It is thus seen that only during the months of June, July, and August does the mean temperature rise to a high point. During this period there are very rarely any prevailing epidemic diseases; and the chief mortality occurs among children, especially among the poorer classes.

The health of Philadelphia at present is unusually good. Timely efforts have been made to secure an abundant water-supply to meet the great increase in the demand which must be expected this summer as compared with previous years. Constant watchfulness will be exercised by the authorities to maintain cleanliness, and to avoid or remove every possible cause of disease.

Within the Exhibition grounds a rigid sanitary inspection will be maintained, under the control of the Bureau of Medical Service; and thus a guarantee will be afforded that no cause of infection or disease will be allowed to occur through neglect of this important duty.

The object of this circular has been to call attention to the unusual sanitary advantages of Philadelphia, and to the preparations which have been made to insure the highest possible degree of healthfulness during the approaching Exhibition season. It is proposed to issue at certain intervals other circulars, announcing in an official and accurate manner the sanitary condition of the city, so that entire security may be felt by all who desire to visit the Centennial International Exhibition.

—

International Medical Congress, 1876.—The committee of arrangements have been notified by the following distinguished foreigners of their intention of attending the Congress to be held in Philadelphia in September next: Dr. Brown-Séquard, of Paris; Dr. Robert Barnes, late President of the Obstetrical Society of London; Mr. Henry Wilson, of Dublin; Dr. Chas. Bland Radcliffe, of London; Mr. Morell Mackenzie, of London; Dr. John Barker, of Dublin; Mr. William Stokes, of Dublin; Mr. William Adams, President of the Medical Society of London; and M. Benjamin Ball, Professor Agrégé in the Paris Faculty.

The Obstetrical Society of London, the Medical Society of London, the Surgical Society of Ireland, and the Medical Society of Kings and Queens College, Ireland, have notified the committee of their intention to be represented by delegates.

Delegates have been appointed by the following State Medical Societies:—

South Carolina Medical Association—Drs. Eli Geddings, of Charleston; S. Baruch, of Camden; H. D. Fraser of Charleston; T. T. Robertson, of Winnsboro'; A. P. Wylie, of Chester; B. W. Taylor, of Columbia; and E. B. Turnipseed, of Columbia.

Tennessee Medical Society.—Drs. Paul F. Eve, of Nashville; D. C. Gordon, of Pulaski; W. P. Jones, of Nashville; J. H. Van Deman, of Chattanooga; W. C. Cook, of Nashville; T. Menees, of Nashville; F. Bogart, of Sweetwater; J. R. Buist, of Nashville; S. S. Mayfield, of Brentwood; and H. J. Warmouth.

Kentucky Medical Society.—Drs. L. P. Yandell, Sr., R. O. Cowling, E. S. Gaillard, John Goodman, D. W. Yandell, Jno. A. Larrabee, D. S. Reynolds, J. A. Ireland, of Louisville; J. N. Letcher, of Henderson; J. Hale, of Owensboro'; Geo. T. Erwin, of Danville; J. M. Montmollin, of Ashland.

Georgia Medical Association.—Drs. J. A. Eve, Robert Battey, R. J. Nunn, W. H. Doughty, W. F. Westmoreland, D. W. Hammond, H. F. Campbell, F. A. Stanford, W. O'Daniel, and J. M. Johnson.

New York State Medical Society.—Drs. Frank H. Hamilton, of New York; B. Fordyce Barker, of New York; Edward H. Parker, of Poughkeepsie; Frederick Hyde, of Cortland Village; Henry W. Dean, of Rochester; John P. Gray, of Utica; L. I. Teft, of Syracuse; J. V. P. Quackenbush, of Albany; James P. White, of Buffalo; George Burr, of Binghamton; S. O. Vanderpoel, of Quarantine; G. A. Dayton, of Mexico; Wm. C. Wey, of Elmira; C. R. Agnew, of New York; B. F. Sherman, of

LECTURES ON FEVER:

DELIVERED IN THE THEATRE OF THE MEATH HOSPITAL
AND COUNTY OF DUBLIN INFIRMARY.

1804-1878

BY

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PHILADELPHIA:
HENRY C. LEA.
1876.

THE FOLLOWING PAGES

Are Dedicated to

HENRY WENTWORTH ACLAND, M.D., LL.D., F.R.S.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD;

HONORARY PHYSICIAN TO H.R.H. THE PRINCE OF WALES.

WHOSE ENLIGHTENED EFFORTS TO SHOW THE RELATIONS OF CURATIVE AND PREVENTIVE MEDICINE TO THE HIGHEST INTERESTS OF MAN HAVE EARNED FOR HIM THE GRATITUDE OF ALL HIS FELLOW-WORKERS.

PREFACE.

It seems fitting I should mention that the following Lectures, the delivery of which has been spread over a considerable period of time, were not given in any regular sequence, so as to form a continued or systematic course. On the contrary, most of them were delivered at irregular intervals, and all as extemporary discourses. In one remarkable instance, this has led to the repetition of a very peculiar case of internal abscess in convalescence from Fever with icterus. As stated in the text, I was at first inclined to regard the liver as the primary seat of the abscess; but at page 149 I have given reasons for concluding that the lesion was originally in the spleen. Several years intervened between the delivery of the first, and that of the second, lecture in which the case is mentioned.

The place in which I spoke should be remembered—namely, the theatre of a General Hospital, containing, indeed, separate fever wards, but also wards for the treatment of cases other than those of essential disease. And so, with the view of publication, it became necessary to employ a good deal of selection as to the subject-matter of each lecture. Some of them, so far back as the year 1854, were edited by my friend and former pupil Dr. Lyons, and appeared in the *Medical Times and Gazette* under the head of "Clinical Lectures on Fever."

Since that time, I need not say, the study and the teaching of Fever have been continued in the Meath Hospital, with at least one important result—namely, the valuable and original work of my trusted friend and late colleague Dr. Hudson, a work worthy to follow that of Dr. Graves for its learning, judgment, and practical worth.

It appeared to me that lectures addressed to successive classes of clinical students, and grounded on constantly renewed observations in the sick ward throughout many years, would have a value different in kind from, if not superior to, any exhaustive history of fever, especially as regards the various theories of the disease or the observations made by others.

I have ever believed that the great object of a clinical instructor

is twofold—first, that he should teach rather by example than by precept; and, secondly, that he should act more as a fellow-student than as a master. In this way the members of his class, associated with him in investigation, will learn as much or more by his example as they would by his precepts. They will taste the pleasure of original work and the value of self-instruction, and perceive that their great object is less to be taught by another than, in following his steps, to learn to teach themselves. This shows the superiority of clinical over systematic teaching in medicine. The former admits of immediate demonstration; and, from the ever-varying combinations and characters of essential disease, no one lecture can, as it were, repeat another.

But while his discourses must vary from time to time, according as they may deal with the infinitely varied complications of local secondary disease, or in relation to the "epidemic character" of the essential or general malady, the duty of the teacher should ever be to imbue the minds of his hearers with the state of his own convictions on the subject in general. Thus he will furnish them with a knowledge less of particulars or of theories than of those broad principles which in after-life will guide them in dealing with disease.

In the following Lectures I have considered in some measure the question of the separate identity of typhus and typhoid fevers, but I have not entered into it as fully as the labours of other observers in various countries might have encouraged me to do. I have preferred to dwell on the great subject of the relation of the secondary affections of fever to the essential malady, and in the light of that relation to discuss the question of treatment.

No one can deny that a normal case of typhus will show striking differences from a normal example of typhoid; yet that these differences belong rather to species than to genera, and that the principles of treatment of the two affections are the same, must, as it appears to me, be admitted. In fact, the study of the points of agreement between the two forms of Continued Fever under discussion will be more valuable than that of their differences.

They are both essential affections, in which the local anatomical changes are secondary to, or resulting from, the fever.

They are both subject, although in varying degrees and at different times, to the Law of Periodicity.

The characters of the constitutional and local symptoms in both vary as to intensity, amount, seat, combination, period of appearance and of cessation, and effect upon the primary disease.

In both, the local symptoms may be only functional, or more or less connected with anatomical change.

In both, local change may interfere with the law of periodicity, or even be attended by cessation of the constitutional symptoms. This has been observed more frequently in typhus than in typhoid.

In both, the action of the law of periodicity applies not only to the general condition, but also to the secondary affections.

In both, the local or secondary malady may take on a consequent condition of reactive irritation, thus adding a symptomatic to the primary fever.

The essential and local characters of both vary with the "epidemic constitution" of the time being.

The symptoms of local disturbance, which are reliable as a guide to diagnosis where essential disease does not exist, in a great measure lose their significance in the presence of both forms of Continued Fever.

In both, any or all of the functions may be disturbed singly, collectively, or successively, with or without corresponding anatomical change.

In both, deposits of tubercular matter may occur as a secondary local affection.

Similar exciting causes seem occasionally capable of giving rise to either form of fever.

In "relapse cases"—I do not mean cases of Relapsing Fever—the character of the second attack may differ widely from that of the first. Thus typhus may give place to typhoid, or *vice versâ*.

The petechial or the measly eruption of typhus may coexist with the rose-spots of typhoid.

Both forms are contagious, although in different degrees.

As I have said, the principles of treatment in both are the same.

These Lectures do not pretend to give even a sketch of all that is known or believed to be known respecting Fever. Nothing will be found in them relating to histological research, the chemico-vital states of the fluids or organs, or the analysis of the laws of crisis. The wide questions of the correlation or convertibility of essential disease are barely touched upon. Some of the facts connected with the

change of type of disease, especially as regards the local affections of essential maladies, are mentioned. I have also spoken of the shortcomings of the numerical system in medicine, of which Professor Trousseau, in the introduction to his immortal work,[1] writes as follows:—

"Si la statistique appliquée à la médecine n'élevait pas trop haut ses prétentions, si elle se considérait non comme la clef de voûte de toute science, mais comme un procédé un peu moins imparfait que la plupart de ceux que l'on suivait jusqu'ici, je ne songerais qu'à la louer, qu'à la présenter à votre choix, parce que réellement je la crois utile; mais elle fait tant de bruit pour de si pauvres résultats, qu'on ne peut, en conscience, l'aider à tromper la jeunesse par une sorte de charlatanisme d'exactitude et de vérité."

The difficulties attending the application of the numerical system are nowhere greater than in the study of essential fever, because of the ever-changing nature of the epidemic type of the disease and of its secondary local affections.

I cannot close this Preface without expressing my deep sense of obligation to my distinguished colleague Dr. Arthur Wynne Foot for a valuable record of temperatures in Fever, collected for the most part under his personal supervision in the wards of the Meath Hospital during the last three years.

[1] Clinique médicale de l'Hôtel-Dieu de Paris, deuxième édition, tome 1er, Introduction, p. xliv.

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American Medical Association. — This Associatiou will meet in Horticultural Hall, Philadelphia, on Tuesday, June 6th. Indications point to over two thousand delegates being present.

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Association of Medical Superintendents of American Institutions for the Insane.—The thirtieth aunual meeting of this Association will be held at the Continental Hotel in the city of Philadelphia, on Tuesday June 13th, 1876.

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American Pharmaceutical Association.—This Association will meet in Philadelphia on the 12th of September next.

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Medical Association of Alabama.—This Society met in Mobile on the 11th of April, Dr. J. J. Dement, of Huntsville, President, in the chair. The following officers were elected for the ensuing year: President, Dr. E. D. McDaniel, of Camden; Vice-Presidents, Drs. R. Inge, of Greensboro', and J. S. Bankson, of Jackson County. Birmingham was selected as the place for the next anuual meeting.

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Medico-Chirurgical Faculty of Maryland.—The seventy-eighth annual session of this association was held in Baltimore on the 11th of April, Dr. John F. Monmonier, President, in the chair. The following officers were chosen for the ensuing year: President, Dr. Christopher Johnston; Vice-Presidents, Dr. James A. Steuart, F. T. Miles, and W. P. C. Williams; Recording Secretary, Dr. Wilson G. Register, of Baltimore.

Texas State Medical Association.—The annual meeting was held in Marshall, on the 4th of April.

The following officers were elected: President, Dr. Harrison, of Columbia; Vice-Presidents, Drs. Pope, of Marshall, Wiley, of Dallas, and Park, of Tyler; Secretary, Dr. W. A. East. The next annual meeting will be held in Galveston on the first Tuesday in April.

—

South Carolina Medical Association.—The annual meeting of this association was held in Columbia, under the Presidency of Dr. James McIntosh, of Newberry. The election of officers for the next year resulted in the following choice: President, Dr. J. F. M. Geddings, of Charleston; Vice-Presidents, Drs. J. C. Maxwell, of Abbeville, J. H. Foster, of Lancaster, and G. S. Trivezant, of Richland; Recording Secretary, Dr. H. D. Fraser, of Charleston.

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Tennessee Medical Society.—The forty-third annual session convened in Nashville on the 4th of April, Dr. J. H. Van Deman, of Chattanooga, presiding. The election of officers resulted as follows: President, Dr. J. J. Abernethy, of Deeherd; Vice Presideuts, Drs. F. Bogart, of Sweetwater, J. A. Duckius, of Readyville, and S. T. Evans, of Union City; Recording Secretaries, Drs. Duncan Eve, and J. W. McAllister, of Nashville. The next meeting will be held at Nashville.

—

California State Medical Society.—The sixth annual meeting of this society was convened in San Francisco on the 19th of April, Dr. Nixon, President, in the chair.

The election for officers for the ensuing year resulted as follows: Pesident, Dr. Cheney, of Butte; Vice Presidents, Drs. B. D. Dean, of San Francisco, W. S. Hamlin, of Yuba City, Pond, of Napa, and Todd, of Stockton; Secretary, Dr. Tyrrel, of Sacramento; Treasurer, Dr. Oatman. The society will meet *next year* in San Francisco.

—

Georgia Medical Association.—This Society convened in annual session in Augusta on the 19th of April. The follow-

ing officers were elected for the ensuing year: President, Dr. Robert Battey; Vice Presidents, Drs. K. P. Moore and A. W. Calhoun. Macon was selected as the next place of meeting.

—

University of Pennsylvania.—Dr. Jos. Carson has resigned the chair of Materia Medica in the Medical Department of this institution, which he has long filled with great advantage to the school and credit to himself. He has been elected by the Trustees Emeritus Professor.

An election to fill the vacancy in the Faculty thus created, will be held on the 20th of this month.

—

Preliminary Education.—The Portland (Maine) Medical School makes the following announcement:—

"No person will hereafter be admitted to the school, who does not satisfy the Board of Instructors that he possesses at least a good common school education. The fact of graduation from college, or from a respectable high school or academy, is taken as sufficient evidence of such acquirements; but in the absence of a diploma, or certificate to this effect, a written examination will be held."—*Med. Record*, April 29, 1876.

FOREIGN INTELLIGENCE.

Treatment of Tapeworm.—A return of the quantity of the several drugs in most general use for the treatment of tapeworm, in the public hospitals of Paris during the last ten years, has been made by the Director of the Central Pharmacy. A comparison of the relative quantities consumed during the first and second halves of the decennium supplies an interesting indication of the professional verdict as to their relative value. The average quantity of kousso consumed annually was more than twice as great during the four years since 1870 as during the six years before. The amount of pumpkin-seeds employed has not quite doubled; that of pomegranate-bark has remained almost stationary; and that of the male-fern has more than doubled. Kousso and male-fern thus appear to be the remedies on which Parisian experience shows most reliance can be placed. M. Colin, however, in a recent paper on Tænia in the French Army, advocates very strongly the use of pomegranate-bark. He asserts that when the precaution was taken never to administer a purgative before the vermifuge, the head of the worm was expelled, in three cases out of four, by a single dose. A purgative given before simply tears away the segments, leaving the head attached, and the head is then undisturbed by the special medicine.—*Lancet*, March 18, 1876.

—

Removal of a Cherry-Stone from the Nostril of a Woman aged sixty-four, where it had remained for nearly twenty years.—This operation has recently been performed by M. Tillaux. The patient, before presenting herself at Lariboisière Hospital, had gone the round of the hospitals and a host of private practitioners, and, strange to say, no one detected the presence of the foreign body in the nostril. The consequence was, the poor creature was treated for ozæna, which of course was the most prominent symptom; but all were mistaken as to its real cause. Some looked upon it as a scrofulous rhinorrhœa, while others put it down to the syphilitic taint; and the patient was of course submitted to the treatment generally adopted in one or other of these affections. M. Tillaux himself had fallen into the same error, and, although there was no other sign of syphilis or scrofula, whether old or recent, M. Tillaux, like most of his *confrères*, gave the patient the benefit of the doubt, as is done in criminal cases, being convinced that if she is not scrofulous she must be syphilitic; and accordingly, she was subjected to what is termed the specific treatment for syphilis. The patient had been nearly six months in hospital undergoing this treatment, without any improvement in her condition. From time to time M. Tillaux examined the nostril with a probe, and felt the foreign body, which, however, he mistook for dead bone. Eventually, the foreign body became movable, which induced M. Tillaux to attempt its extrac-

tion, which he succeeded in effecting with a pair of dressing-forceps. The instrument brought away a body about the size of a large pea, as black as coal, of an irregular shape, and of a most offensive odour; but M. Tillaux, having observed that it was heavier than a bit of bone of that size, was puzzled as to its real nature. With a fine saw he cut the body in two equal halves, and to his great surprise, he found that it was nothing more nor less than a common cherry-stone. How it got into the nostril was another question. The patient denied having introduced it, and could not say when and how it got there. M. Tillaux suggested that in eating cherries some people swallow the stones as well, and the patient was probably one of those gluttonous creatures. It may be that in the present case, in the act of deglutition, the stone attempted to "go down the wrong way," as it is vulgarly expressed; and the patient, by an instinctive movement, coughed up the stone, which, instead of escaping by the mouth, was forced up the posterior nares, and there took up its abode until its forced removal. It need hardly be said that from that day forth the patient's condition rapidly improved, and she left the hospital a week after the operation with her nose as well as if nothing had happened to it.—*Med. Times and Gaz.*, Feb. 12, 1876.

[An analogous case, in which a glass button with a brass wire eye was removed from the nostril of a lady, where it had remained for upwards of twenty years without its presence being suspected, was reported to the Philadelphia College of Physicians in 1857 by Dr. Isaac Hays, and is published in the Transactions, vol. iii. N. S. p. 154.]

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Eucalyptus Globulus in Pulmonary Gangrene.—Of all the drugs employed by Dr. Bucquoy (of Cochin Hospital, Paris) in pulmonary gangrene, none, he asserts, have given him better results than Eucalyptus globulus. He uses it in the form of an alcoholate—two grammes—(half a drachm) daily in a mixture of water, gum, orange-flower water, and syrup. Out of the various cases he has had under his care at Cochin, five ended in cure, whilst in all the others there was a favourable modification of the odour of the breath, the sputa, and the violent cough, after carbolic acid had failed.—*Lancet*, March 18, 1876.

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Chromic Acid for Warts.—Three or four applications of this acid will cause the disappearance of warts, however hard, large, or dense these may be. The application gives rise to neither pain, suppuration, nor cicatrices, the sole inconvenience being the production of a dark brown colour.—*L'Union Médicale*, April 22, 1876.

—

A Caution in Hypodermic Injection of Morphia.—In a note read at the *Société de Biologie*, Dr. Chouppe adverted to two cases in which very serious symptoms immediately followed the injections of minute quantities of morphia. This accident, he has found out, arises from the canula of the syringe having penetrated one of the minute veins, so that the morphia is thrown directly into the venous circulation. When this is the case, the patient, in twenty-five or thirty seconds after the injection of an ordinary dose, is seized with tinglings in the hands, which soon pervade the body, and are accompanied by very intense itching. The veins of the neck become swollen, the face is flushed, and the pulse beats violently, rising to 120 or even to 160. In about a minute and a half, a cold sweat pours off the surface; and in three or four minutes all urgency has ceased, although the heart may continue agitated for some hours after. In order to prevent the occurrence of these effects, the operation should be performed very slowly, so that the injection may be at once stopped when tingling of the hands commences; or what Dr. Chouppe believes will prove the better practice will be to introduce the canula, not with the syringe already charged with the injection, but without the latter, and observe whether a vein has been penetrated, as shown by the issue of blood, drop by drop from the canula. When this is the case, we should either puncture afresh in another place or push on the canula deeper, so as to traverse

the wounded vein. After this precaution has been taken, the injection may then be made.—*Med. Times and Gaz.*, March 8, 1876, from *Gaz. Hebdom.*, March 17.

—

Death after the Administration of Chloroform during Parturition.—A case of this is related in *L'Union Méd.*, April 13th, 1876. A multipara, æt. 25, entered the Maternité de la Charité at Lyons on the 23d of March. Labour-pains continued all the evening and night. The next morning at 7 o'clock the membranes ruptured; a shoulder presentation was recognized. To effect version chloroform was administered by the sister in charge of the ward without calling on the chief of the service or the interne. The patient did not arouse after the operation. The interne was then called, who found the pulse very small, the face cyanotic, the inspirations short and frequent. All efforts to revive the patient proved fruitless, and in ten minutes death ensued.

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Death from Chloroform.—The *Lancet* (April 15, 1876) reports a case which occurred at Leicester.

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Ascaris found in the Os Uteri.—Mr. Johnston exhibited to the Dublin Obstetrical Society (Feb. 12) a specimen of ascaris which he found in the os uteri of a woman upon whom he was operating for vesico-vaginal fistula. This parasite has been known to creep out of the anus into the vagina, but one has not before been found so high up, it is believed.

—

The Coca Leaf.—At the Edinburgh Botanical Society, on April 13, Sir R. Christison read an interesting paper on the Restorative and Curative Effects of the Coca-leaf of Peru. At the outset, Sir Robert showed that diversity of opinion had existed among chroniclers, and travellers, in regard to the effects of coca upon those who chewed it; for, while most of them considered that it possessed wonderful powers of sustaining strength under prolonged fatigue without food, some thought its use pernicious and dangerous, others as not only innocuous, but beneficial to health. The annual consumption of the leaf by the eight millions of people along the Cordilleras of the Andes who use it, was thirty millions of pounds. After giving a description of the coca-plant, and the method of gathering and drying its leaves, Sir Robert gave an account of some experiments made upon some of his students and himself, in which he had found that it was both a preventive of fatigue and a restorative of strength after severe bodily exertion, and that it had no reactionary effect upon the system. In regard to the use of coca as a medicine, he advised no one to try it until something more was known about it, or at least not to make use of it without consulting a physician. He had succeeded in extracting a liquor from the leaf, as a more satisfactory mode of administration than chewing the leaf; but he had not been able to ascertain whether this retained all the properties of the article. A similar *liqueur de coca* was to be had in Paris.—*Brit. Med. Journal*, April 22, 1876.

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Effects of Cold on Milk.—The effects of a low temperature on milk have been carefully examined by M. Eug. Tisserand, who recently communicated his observations to the Académie des Sciences. He found that, if cows' milk is immediately, or soon after being drawn, placed in vessels at various temperatures between freezing-point and 90° F., and the initial temperature is maintained for twenty-four or thirty-six hours, it will be found that the nearer the temperature of the milk is to freezing-point the more rapid is the collection of cream, the more considerable is the quantity of cream, the amount of butter is greater, and the skimmed milk, the butter, and the cheese are of better quality. These facts, he believes, may be explained by Pasteur's observations on ferments and their effect on the media in which they live. It is probable that the refrigeration arrests the evolution of the living organisms which set up fermentation, and hinders the changes which are due to their growth. The facts stated indicate room for great improvement in the methods of storage and preservation of milk. To

keep milk at its original quality extreme cleanliness and a low temperature are absolutely necessary. In the north of Europe, Denmark, etc., the value of cold is already recognized, and in warmer climates the need for its assistance is greater. There is nothing impracticable in the suggestion, since running streams can be used to aid refrigeration. Where the quality of the milk is of great importance, ice may be employed.—*Lancet*, March 11, 1876.

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Cure for a Cold in the Head.—Dr. David Ferrier extols (*Lancet*, April 8, 1876) a snuff made of the following ingredients as a very speedy cure of that troublesome affection, a cold in the head.

Hydrochlorate of morphia, two grains; acacia powder, two drachms; trisnitrate of bismuth, six drachms. As this is neither an errhine nor a sternutatory, but rather the opposite, it may be termed an anti-errhine or anti-sternutatory powder. Of this powder one-quarter to one-half may be taken as snuff in the course of the twenty-four hours. The inhalations ought to be commenced as soon as the symptoms of coryza begin to show themselves, and should be used frequently at first, so as to keep the interior of the nostrils constantly well coated. Each time the nostrils are cleared another pinch should be taken. It may be taken in the ordinary manner from between the thumb and forefinger, but a much more efficacious and less wasteful method is to use a small gutter of paper, or a "snuff spoon," placing it just within the nostril and sniffing up forcibly so as to carry it well within. Some of the snuff usually finds its way into the pharynx, and acts as a good topical application there, should there be also pharyngeal catarrh. The powder causes scarcely any perceptible sensation. A slight smarting may occur if the mucous membrane is much irritated and inflamed, but it rapidly disappears. After a few sniffs of the powder, a perceptible amelioration of the symptoms ensues, and in the course of a few hours, the powder being inhaled from time to time, all the symptoms may have entirely disappeared.

I am writing this note cured of a cold in the head which I began to manifest in a very decided manner last night—viz., weight in the frontal sinuses, tickling of the nostrils, sneezing, watering of the eyes, and commencing flow of the nasal mucus.

I commenced taking the snuff, continuing at intervals for about two hours, thoroughly coating the interior of the nostrils with it. Next morning I found myself entirely free from catarrh. The effects in my own case have been twice so rapid and beneficial that I look with comparative indifference on future colds. In the case of others to whom I have recommended the same treatment, equally rapid and beneficial results have followed. One of my students in King's College Hospital described the effects as quite magical and unexpected, having in this way got rid of a cold in one evening. The other day one of the officials in King's College asked me if I could do anything to check a dreadful cold in the head which he had just caught. I gave him the above prescription, asking him to note the results. A day or two after he came and told me that I had given him very marvellous snuff, as he had not taken more than one-eighth part before he had got rid of all his uneasiness and discomfort. Though I have not yet had very many opportunities of trying this method of cure, the success so far has been such as to warrant my recommending it as a rapid and efficacious treatment of nasal catarrh.

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Daltonism among Sailors.—Dr. Favre, of Marseilles, calls attention to the fact that while in reference to railway *employés* the recognition of the red signal is almost the only absolute essential point, with regard to sailors the green is just as indispensable as the red. At recent examinations of 1050 candidates for employment on railways, he has detected as many as 98 Daltonians who were deceived as regards one or more colours, this occurring as regarded violet 78 times, blue 50, green 54, yellow 14, and red 10. Of the 98, 29 only hesitated, and 8 corrected their errors, leaving, therefore, 61 Daltonians. Ultimately only 11 had to be absolutely excluded; but if these men had to be ex-

amined for sea or coast service, all those who could not distinguish green ought to have been excluded also. Dr. Favre calls attention to the fact that men employed as sailors are not examined on this point, and he does not hesitate to attribute many accidents at sea to the colours of signals, light-houses, etc., being mistaken, especially in the merchant service. He lays down the following propositions: 1. All sailors having to make use of coloured signals should undergo an examination in colours. 2. Exact appreciation of red and green is indispensable, and practice in these colours should be established on all ships. 3. Sailors who have suffered from contusions or wounds of the head or eyes should be re-examined for colours. 4. Examination should be instituted after severe illnesses. 5. Those who abuse the use of alcohol or tobacco should be frequently examined. 6. A periodical examination should be instituted in the marine service. 7. In all naval schools and establishments practice in colours should be put in force. 8. The necessity of recognizing green and red constitutes for sailors a minimum, which doubtless before long will be considered insufficient. —*Med. Times and Gaz.*, April 8, 1876, from *Marseille Méd.*

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Pawnbrokers and Typhus Fever.—A recent outbreak of typhus in Leeds is attributed to the infected clothes of a patient who had died of that disease, and were pawned at a pawnbroker's. The son, wife, and an assistant of the pawnbroker were in succession seized with the disease. —*The Sanitary Record*, May 6, 1876.

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Unsexing of Women.—Mrs. Lynn Linton, in an article recently published, entitled "Woman's Place in Nature and Society," makes the following remarks on the prevalent desire of women to become doctors. "This craze of unsexed manliness is a false move; we can only hope that it will pass before it has done much vital damage, though assuredly it has done damage enough already! In substituting excitement for duty, individualism for love, freedom from natural restraint for the lovely unselfishness of maternity, personal ambition for wifely devotion, it has cut at the root of all the charms and virtues of womanhood."—*Med. Times and Gaz.*, May 13, 1876.

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The Royal College of Surgeons of England.—This Institution has lately placed upon its examiners in midwifery a very ungracious task, the effect of which would be that the examinations in midwifery would stand alone, and place partially educated persons on a level with those who had or could obtain a complete medical education. The result has been that the examiners in midwifery have resigned.

At the meeting of the Obstetrical Society of London on the 5th of April last, the following resolution was adopted by acclamation.

Resolved, That the Obstetrical Society of London present a vote of thanks to Dr. Arthur Farre, Dr. Barnes, and Dr. Priestley for having resigned their posts as Examiners in Midwifery at the Royal College of Surgeons in the interests of the Science and practice of Obstetrics.—*Lancet*, April 22, 1876.

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Stromeyer Jubilee.—Thursday, the 6th of April, was the fiftieth anniversary of the day on which Stromeyer received his degree of Doctor of Medicine in the University of Berlin, and the occasion was made the subject of a demonstration of a most remarkable kind in honour of this veteran surgeon, the details of which are gleaned from the *Lancet*, April 15, 1876.

Already, the evening before, a serenade was performed in front of Stromeyer's house by torchlight by a chorus of young men belonging to the town. But next day congratulations and every kind of honour a man could desire rained upon his head. First, the Empress of Germany sent an autograph letter, expressing her good wishes and esteem, and a beautiful turquoise Dresden vase with the Emperor's portrait enamelled upon it. Then, on the part of the Emperor, the Prince Albrecht of Prussia, General Commanding the district, came in person to pin on Stromeyer's breast, already covered with Orders, that of the Red Eagle of Prussia. The deputations from his fellow-citizens; from the

various German Universities, Berlin, Bonn, Erlangen, Freiberg, Gottingen, Halle, Leipzig, Munich, Prague; official visits by various persons, as the President of the Province, Count Eulenburg, Herr von Beningen, the Speaker of the Prussian Parliament, came in rapid succession; lastly, the deputies from a distance.

But the chief event in the programme was the great festival in the evening, at which some 300 were present. It took place in the handsome hall of the Bourse, and to the beautiful music of the band of the 3d Regiment of the Prussian Guards. At a German dinner the toasts begin with the soup. Accordingly, no sooner was it served than Count Eulenberg stood up to give the toast "Kaizer und König," but he coupled the loyal sentiments he expressed with a happy eulogy of Stromeyer. Then in succession, as the dinner proceeded, came the other toasts, the first after the Emperor being that of Stromeyer, proposed by Surgeon-General Berthold, who gave, in most fluent and apposite language, a sketch of the "Jubular's" life. Stromeyer replied at considerable length.

But it is really difficult to describe the good-will and enthusiasm which prevailed, and made this festival the most remarkable ovation to the worth of a man which it is possible to imagine. During the day the telegraph office was occupied transmitting telegrams arriving from all parts, so many it was said had never before passed through the office in Hanover in one day.

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The Medical Members of the French Chamber of Deputies.—The special knowledge of the medical members of this Chamber is likely to be often available. For the consideration of the new Bill for the organization of the hospital services of the army, of a committee of eleven deputies, six are medical men, one of whom, M. Laussedat, has been chosen as the chairman, and another (M. Liouville) as secretary.—*Med. Times and Gaz.*, April 22, 1876, from *Gaz. Méd.*, April 15.

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Obituary Record.—Died, on the 23d of February last, of malignant erysiplas, M. Hubert, Professor of Obstetrics in the University of Louvain.

—— on the 11th of April last, of heart disease, Prof. Louis Traube, of Berlin. Dr. T. was born in 1818, in Silesia, and studied medicine at the Universities of Breslau and Berlin. After taking his degree he went to Prague, Vienna, and Paris, where he studied specially methods of physical examination of the chest. Returning to Berlin, he soon became an eminent specialist for heart and lung diseases. As a member of the Mosaic confession, it was not till after the revolution of 1848 that he was admitted to the Charité Hospital as clinical assistant to the celebrated Schoenlein. He was the first civilian resident physician in the Charité, the other places being filled, as the majority of them are at present, by doctors of the army. In 1853 Traube became a clinical teacher, and acquired as such a high reputation. Virchow, who was associated with him by the similarity of their aims and studies no less than by personal friendship, has written his necrology in feeling expressions in the last number of the *Klin. Wochenschrift.*

—— in Dublin, April 19th, aged 61 years, Sir William Robert Wills Wilde, Surgeon-Oculist-in-Ordinary to the Queen in Ireland. Sir William established the first hospital for eye diseases in Ireland, was the author of a work on aural diseases and numerous papers on ophthalmology, archæology, statistics, etc., and for some years was the editor of the *Dublin Quarterly Journal of Medical Science*, and in the preface to the number for February, 1846, gave an able historical account of periodic medical literature in Ireland, embracing a period of 200 years.

—— in Paris May 8th, aged 63, M. Béhier, Professor of Clinical Medicine in the Hôtel Dieu. Since the death of Trousseau he has been esteemed one of the leading clinical teachers of Paris.

—— recently in Paris, J. F. Charrière, the celebrated surgeons' instrument maker, aged 74. He was not only celebrated for the perfection and finish of his instruments but for his great ingenuity. Surgery owes to him the invention of a number of most useful instruments.

NOTICE TO SUBSCRIBERS.

The present number of the "Medical News and Library" contains the completion of Dr. Stokes's Lectures on Fever. In the July number will be commenced the publication of

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IV. TRAUMATIC FEVER, SEPTICÆMIA, AND PYÆMIA—4 Lectures.
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